The Boston Medical and Surgical Journal

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May 13, 1915

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Address.

THE CARE AND TREATMENT OF THE WOUNDED IN THE EUROPEAN WAR.*†

BY RICHARD DERBY, M.D., NEW YORK.

AT the outbreak of the present European War, some of the Americans resident in Paris conceived the idea of establishing a Section for the Wounded, as an outgrowth of the American Hospital in Paris. The Lycée Pasteur, a large public school building nearing completion, was offered them for this purpose by the French Government. Prompt and efficient organization converted this building, in the short period of three weeks, into a modern and well equipped hospital, capable of caring for upwards of a hundred patients. With the nursing staff of the American Hospital as a nucleus, an efficient nursing department was organized by the addition of American and English volunteer nurses and resident American ladies in Paris. Many of the American business men of Paris volunteered as orderlies, ambulance drivers, and stretcher bearers. The doctors in attendance at the American Hospital, under the leadership of Dr. DuBouchet and Dr. Blake, took over the wards. The manager and his wife, of one of the large Paris hotels, volunteered their services to look after the cuisine. The actual administration of the hospital was in the hands of the surgeon-in-chief and a committee of the trustees of the American Hospital.

Early in September the hospital was ready for the reception of wounded. At that time, during the Battle of the Marne, no wounded were being sent to Paris. The city was in danger, under military rule, and the wounded were being sent to the south of France. One night, at the instigation of the Ambassador, a party of automobiles went out to Meaux, picked up from the battlefield and roadside all the wounded they could carry, and brought them into the hospital. Shortly after this, permission was given the ambulances of the hospital to remove wounded from the trains as they stopped at Auber Villiers and Ville Neuf St. George. Doctors always accompanied the ambulances to these stations, and saw to it that only the most serious cases were removed and brought to the hospital. The custom had been for an officer of the Santé to pass through the train at the stop near Paris, and ask if anyone complained and would like to be taken off. The question did not as a rule elicit an answer from the unconscious man with a fractured skull, while he with some trivial injury might avail himself of the invitation.

At the time of the Battle of the Marne the emergency and the number of the wounded was so great that the handling of them was a matter of the greatest difficulty. The French were then fighting a battle, the importance of which cannot be exaggerated. All the railroads and roads leading up to the line of battle, were primarily needed for bringing up reinforcements, ammunition and food. The moving back of the

* Read at a meeting of the Harvard Medical Society, Feb. 2, 1915.

† In another column of this issue of the JOURNAL is published a communication from Dr. R. B. Osgood which should be read in conjunction with Dr. Derby's article to obtain a complete picture of the history and present status of the American Ambulance Hospital. —EDITOR.

Shrapnel Wound on Ventral Aspect of Forearm. [*By Courtesy of Dr. Samuel G. Underhill, of Lynn.*]

wounded had to be relegated to fourth place, in order of importance. The trains going up, after unloading, were filled with wounded, and started on their return journeys. Economically, it was better for these trains to return to points in the south of France, from where they came, and not touch at Paris. The result was that the return journey was a long and constantly interrupted one. Long hours of waiting on sidings, while the supply trains passed north, turned the usual journey of part of a day into a week's length. In the early days of October, when I reached Paris, we received wounded at the hospital who had been a week in coming from points as near as Arras or Soissons. Military necessity was the explanation, and I know of no method, in face of the conditions, which could have brought the wounded more quickly to a base hospital at a safe distance.

During the early weeks of October, we received comparatively few wounded at the hospital, and this in face of the fact that spirited fighting was going on at this time. The French communiqués reported favorable progress. At first it was difficult to explain the discrepancy, but subsequent developments showed that during this period the Germans had been advancing, and had consequently been picking up the French wounded.

President Poincaré and General Gallieni, the Military Governor of Paris, visited the hospital in the middle of October, and expressed their satisfaction and appreciation of the work being done there. There followed a promise from the French Government to send ten wounded a day to the hospital, which was strictly adhered to.

On my service of one hundred beds, there were 82 cases of shrapnel wounds, 20 cases of rifle bullet wounds, and one bayonet wound. The shrapnel wounds were, without a single exception, infected. Four of the twenty rifle bullet wounds were clean, but the infections of the remaining sixteen were milder in nature than in the case of the shrapnel wounds. It was not at all surprising to find the shrapnel wounds infected, considering the amount of foreign material found in them. It was often possible to identify the red and blue material of the French soldiers' uniforms. Pieces of straw and wood were occasionally found.

The following table shows the nature of the injuries and the parts of the body affected, in order of frequency:—

Fracture of the radius	1
Wound of the nose	1
Fracture of the ulna	2
Traumatic amputation of the thigh	2
Fracture of a metatarsal bone	3
Fracture of the skull	3
Fracture of the pelvis	3

Fracture of the scapula	4
Fracture of a rib	4
Fracture of the jaw	4
Fracture of a phalanx	4
Wound of the knee-joint	4
Fracture of a metacarpal bone	4
Injuries to the spinal cord	5
Injuries to the eye	5
Penetrating wounds of the abdomen	5
Penetrating wounds of the thorax	6
Fracture of the tibia	8
Fracture of the fibula	8
Fracture of the femur	9
Fracture of the humerus	20
Flesh wounds	35

The point of chief interest in this table is the comparatively small number (5) of penetrating wounds of the abdomen. These five cases, I think, very fairly represent the small proportion of recoveries from these wounds. The vast majority of these cases must die on the field of battle or in the trenches.

There were four cases of infection with the Bacillus aerogenes capsulatus, of which three recovered, an amputation at the thigh being necessary in one of the cases. A great many of the wounds contained gas on admission to the hospital. The Bacillus coli communis, or some other gas-forming organism, was most often responsible.

The usual procedure was to take all cases, upon admission, to the operating room and give them an anaesthetic. Then the part of the body affected was shaved, if necessary, and cleaned with turpentine, soap and water, and bichloride. In infected cases, the wounds of entry and exit were enlarged, and all gross foreign material and unattached fragments of bone removed. The wound was then irrigated with peroxide of hydrogen. Suitable drainage was established, and a sterile dressing and splints, when necessary, were applied. The subsequent treatment consisted in daily dressings and irrigation.

The majority of the patients we received in Paris were French. During September a good many English were sent to Paris, but during October and November they were sent to base hospitals along the coast, and from there shipped back to England. Before I left in December, some of the English wounded were again being sent to Paris. There were a few Turcos and Senegalese. The German wounded brought to Paris were sent to military hospitals, where they could be confined as prisoners.

Upon their arrival at the hospital the wounded were much exhausted. It was not uncommon to see them sleep the greater part of the first forty-eight hours. They appreciated, as I have never seen any one before, the luxury of a comfortable bed with its clean sheets, a hot meal, and last but by no means least, the cigarette offered them by their next-door neighbor. After recovering from their exhaustion, they exhibited a resistance against infection, which spoke for a sound system and excellent physical condition.

The ambulance department of the hospital was a most important one. Starting with only a few cars, this has grown, until now there are upwards of seventy cars in the employ of the hospital. These cars are all driven by Americans, and are attached to different parts of the French and English lines. Their business is to carry wounded back from the field dressing stations and field hospitals, to base hospitals, which are usually situated near a rail head. Quick evacuation of the wounded back to permanent base hospitals has a greater effect on the reduction of mortality than any one other measure. The English found that the mortality was so great from shipping their wounded across the channel, that they were compelled to give it up. So the ambulance has come to play a most important part in the present war, as a connecting link between the trenches and the nearest rail head. When I left Paris early in December, we were receiving patients who had been wounded the day before, and in some cases even on the day of admission.

In summing up the treatment of wounds in the present war, it seems to me that a greater degree of conservatism has shown itself than ever before, except in the cases of compound infected fractures of the lower extremities. In these latter cases amputation is more early resorted to than formerly, with the idea of saving the individual many long years of chronic bone disease. Otherwise, the methods employed are a combating of the infection by means of ample drainage and antiseptic irrigations.

Shrapnel Wound on Dorsal Aspect of Forearm.
[By Courtesy of Dr. Samuel G. Underhill, of Lynn.]

Original Articles.

REPORT ON THE ALLEN TREATMENT OF DIABETES.

BY LEWIS W. HILL, M.D., BOSTON,

AND

JOSEPH L. SHERRICK, M.D., BOSTON.

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DR. FREDERICK M. ALLEN of the Rockefeller Institute, New York, read a paper in Boston Dec. 2, 1914, before the Suffolk District Medical Society, on his new starvation treatment of diabetes, following the principles laid down in his monograph "Glycosuria and Diabetes." We were so much impressed by his paper that we decided, at the suggestion of Dr. Roger I. Lee, who was then in charge of the service, to try the treatment on a series of cases.

Previously to this our treatment of diabetes on the West Medical Service had been to start the patient off with a fairly high carbohydrate intake, about 100 grams; with 100 grams of protein and 250 grams of fat, or more, and gradually to work down from this, first cutting down the carbohydrate, and then, if the patient did not become sugar-free, cutting down the protein. The fat was always kept high and many patients received over 4,000 calories, our old idea being to make the patient gain weight if possible. If the patient lost weight we were afraid, and we feel that one of the most important things that Dr. Allen has brought out is that a diabetic can lose a good deal of weight with considerable advantage to himself and no harm. We also used "vegetable days" and "oatmeal days"—usually with rather poor results. As to starvation, we were afraid of it, although in one or two cases we had used a semi-starvation day, with thick cream and black coffee, but never for periods of longer than one day at a time. With this treatment our diabetics did fairly well, but the process of getting them sugar-free was a tedious one and a good many cases continued to excrete 0.1% or 0.2% of sugar no matter what we did.

We do not intend to discuss the theory of the Allen treatment—he did that in his original paper—but merely to report our very successful series of cases, in order to show that his treatment is simple, safe and very efficacious in rendering and keeping a patient sugar-free, in a much shorter time than was possible by the old method; that anybody can do it, and that there is no danger of coma.

Our method of treatment, following Dr. Allen's very closely, is as follows: As soon as the patient enters the ward he is put on house diet without extra bread or potatoes and kept on this for two days to determine his tolerance for ordinary diet and the severity of his diabetes. On the third day he is put to bed and given nothing but black coffee with one ounce of whiskey every two hours from 7 A.M. to 7 P.M.—7 ounces of whiskey in all—representing about 800 calories. The whiskey is usually well borne, although in one or two of the female cases it had to be omitted as it caused nausea. If there is much acidosis, as indicated by the amount of diacetic acid and acetone in the urine, sodic bicarbonate is given, otherwise not.

The patient is kept on this regime until he is sugar-free; in most of our cases it took either two and a half or three days to accomplish this. The loss of weight is very slight; the relief of symptoms, such as pruritus, polydipsia, etc., is very striking and we have never seen any indication of acid poisoning in the cases we have treated by this method. On the whole, patients seem to bear starvation remarkably well. We have never starved a case longer than three days, but would not have hesitated to do so had there been any sugar in the urine at the end of this time.

As soon as the patient is sugar-free he is given a "vegetable day," *i.e.* vegetables containing not over 5% of carbohydrates, boiled twice, with a carbohydrate content of about 15 grams after boiling (in the boiling about half the carbohydrate is lost). After a single vegetable day the diet is changed to:

Carbohydrate	15 grams
Protein	25 grams
Fat	150 grams

(Our vegetable diets, as well as several other sample diets are given below). From this the diet is slowly raised, increasing first the fat, then the protein and lastly the carbohydrate. The fat is never raised above 200 grams and the calories seldom above 2,200. On this the patients hold their weight, feel well and usually remain sugar-free. They do not gain weight; but as Dr. Allen says, it is much better to be lean and healthy than to be fat and carry one or two per cent. of sugar. Indeed, in some of the more robust cases who are obese, it seems desirable to get rid of this and the calories are kept low on this account. This is supported by Dr. Allen's experiments with his de-pancreatized dogs, for he found that as soon as he tried to make these dogs grow fat they died, whereas if he fed them on only a small amount, and was content to let them stay very lean, they did very well.

Our series is small, and perhaps we have been lucky, but in no case have we had any unfortunate results—never any sign of coma. In every case the patient has become sugar-free and has stayed so, on a reasonable diet which enabled him to hold his weight.

Some of these were severe cases of diabetes,

young people, whom we had treated before by the old method and could not get sugar-free.

When the patient is discharged from the ward he is given written diet slips with two or three menus which he can use on different days, figured out carefully to correspond with his tolerance. The two most important things to remember in this treatment are the following:

First, do not raise the diet too quickly after starvation, and pay just as much attention to the protein intake as to the carbohydrate.

Second, do not worry if the patient loses weight; it will not hurt him.

CASE REPORTS.

The first three are cases which were treated first with the old method and could never be made sugar-free, running from 0.1% to 0.2% of sugar. On the new treatment they responded promptly and were discharged sugar-free.

CASE 1. A woman of 64, diabetic for two years. She was sent in from the out-patient department, where she had been receiving a diet of 50 grams of carbohydrate and 50 grams of protein. On this diet she was putting out 8 grams of sugar a day with moderately strong acetone and diacetic acid reactions in her urine. When the carbohydrate was cut, in the ward, to 30 grams she put out 3 grams of sugar a day. She complained of severe pruritus vulvae. After 16 days of this treatment she continued to put out from 0.1% to 0.2% of sugar a day. Allen's treatment was then started, and after one day of starvation she was sugar-free and remained so for four days on a diet of carbohydrate, 20 grams; protein, 30 grams; fat, 150 grams. The itching had gone. Then the protein was raised to 80 grams, with the carbohydrate at 20 grams, and she immediately showed 1.5% of sugar. This is very important; the protein should not be raised too quickly. This we did not realize in our earlier cases.

A second starvation day, followed by two vegetable days, and a more careful raising of the diet—as follows—kept her sugar-free, and she was discharged so. Her diets were:

Dec. 12. Carbohydrate, 20 grams.
Protein, 30 grams.
Fat, 150 grams—1500 calories. No glycosuria.

Dec. 15. Carbohydrate, 30 grams.
Protein, 30 grams.
Fat, 200 grams—2000 calories. No glycosuria.

Dec. 20. Carbohydrate, 30 grams.
Protein, 40 grams.
Fat, 180 grams—2000 calories. No glycosuria.

Dec. 26. Carbohydrate, 40 grams.
Protein, 40 grams.
Fat, 180 grams—2000 calories. No glycosuria.

Dec. 30. Carbohydrate, 50 grams.
Protein, 50 grams.
Fat, 180 grams—2000 calories. No glycosuria.

Weight on entrance, 119 pounds.
Weight at discharge, 116 pounds.

CASE 2. A Jew of 49, at entrance had 175 grams of sugar (5.5%), acetone slight, diacetic acid absent. Treated for three weeks with the old method, he got down to a diet containing carbohydrate 15 grams, protein 50 grams—but still put out from 3 to 8 grams of sugar a day. By the old method we could not do away with the last traces of sugar.

The Allen treatment was started with two starvation days. On the second he was sugar-free—but showed 2.6 grams of sugar the following day on 12 grams of carbohydrate and 40 grams of protein. (This was one of the earlier cases when the diet was raised too quickly after starvation.) After one more starvation day and two vegetable days he stayed sugar-free while the diet was raised slowly to 30 grams of carbohydrate and 45 grams of protein, calories about 2000. Discharged sugar-free on this diet.

Weight at entrance. 109 pounds.
Weight at discharge, 110 pounds.

CASE 3. A man of 35, a severe diabetic, entered Dec. 28, 1914. He had been in the hospital the previous July for a month and could never be made sugar-free with the old method of treatment. At entrance he was putting out 2.5% of sugar (135 grams) per day with strongly positive acetone and diacetic acid tests. Two starvation days made him sugar-free, but we made the mistake of not using twice boiled vegetables for his vegetable day after starvation. So on this day he got about 30 grams of carbohydrates, and for a few days he showed from 0.2% to 1% of sugar. Another starvation day was given him and he became sugar-free. This time his vegetables were closely restricted and he was given only enough twice-boiled vegetables to provide about 15 grams of carbohydrates. After this the diet was raised very slowly. He remained sugar-free for three weeks and was discharged so on,

Carbohydrate, 30 grams.
Protein, 40 grams.
Fat, 200 grams.
At no time did he receive more than 2200 calories.
Weight at entrance, 139 pounds.
Weight at discharge, 138 pounds.

These three cases were the first ones we tried, and in each one of them we made the mistake of raising the diet too quickly—either allowing too many vegetables on the vegetable day, or raising the protein too quickly afterwards. With the later cases, after we had more experience, there was no more trouble.

CASE 4. A Greek (male) of 48, diabetic for two months, entered Jan. 14, 1915, with 3.8% (65 grams) of sugar and moderate acetone reaction. There was no diacetic reaction present at entrance. After one starvation day he became sugar-free, but was kept on starvation one day longer and then started on vegetables in the usual way. After the third day a moderate amount of diacetic acid appeared in the urine and continued. The ammonia rose from 0.7 grams per day to 2.6 grams per day, and then varied from 0.3 to 1.5 grams per day. No symptoms of acidosis.

Jan. 18. Carbohydrate, 15 grams.
Protein, 25 grams.
Fat, 150 grams—1360 calories. No glycosuria.

Jan. 20. Carbohydrate, 15 grams.
Protein, 25 grams.
Fat, 200 grams—1571 calories. No glycosuria.
Jan. 24. Carbohydrate, 25 grams.
Protein, 35 grams.
Fat, 200 grams—1760 calories. No glycosuria.
Jan. 26. Carbohydrate, 35 grams.
Protein, 40 grams.
Fat, 200 grams—1838 calories. No glycosuria.
Jan. 29. Carbohydrate, 45 grams.
Protein, 50 grams.
Fat, 200 grams—2194 calories. No glycosuria.
Jan. 31. Carbohydrate, 50 grams.
Protein, 60 grams.
Fat, 200 grams—2347 calories. No glycosuria.

Discharged Feb. 1 sugar-free on this diet.
Weight at entrance, 160 pounds.
Weight at discharge, 156 pounds.

This was not a severe case and responded very easily to treatment.

CASE 5. A female of 59, a diabetic of two years' standing, excreted 2.6% of sugar on Jan. 16, 1915, with no acetone or diacetic acid reactions in the urine. Severe pruritus vulvae. Starved two days; sugar-free on the second starvation day, with disappearance of the pruritus.

Jan. 21. Carbohydrate, 15 grams.
Protein, 25 grams.
Fat, 150 grams—1595 calories. No glycosuria.

From this time the diet was slowly raised until on Jan. 30 she was getting

Carbohydrate, 35 grams.
Protein, 45 grams.
Fat, 200 grams—2156 calories.

She was sugar-free on this and was discharged to the out-patient department after a two weeks' stay in the wards.

Weight at entrance, 135 pounds.
Weight at discharge, 133 pounds.

CASE 6. A man of 52, entered Jan. 10, 1915, with 1% of sugar. He entered for arteriosclerosis and hypertension and the sugar was found in the routine examination of the urine. He was kept on house diet for a few days and his sugar rose to 3.5%. No acetone or diacetic acid. After two days of starvation he became sugar-free and continued so as the diet was slowly raised. He was kept sugar-free in the ward eighteen days and was sugar-free on Feb. 6 with a diet of

Carbohydrate, 60 grams.
Protein, 60 grams.
Fat, 200 grams—2280 calories.

On Feb. 7 the protein was raised to 80 grams and 0.2% of sugar appeared in the urine. The proteid was then reduced to 60 grams and he remained sugar-free on this diet and was discharged so.

In this case after starvation a moderate amount of acetone appeared and continued. No symptoms of acidosis. The ammonia ran from 0.3 to 1.0 grams per day.

Weight at entrance, 160 pounds.
Weight after three weeks' treatment, 156.
Maximum caloric intake, 2525.

CASE 7. A young man of 25, diabetic for eight months, entered Jan. 20, 1915, with 6.6% (112 grams) of sugar and strongly positive tests for acetone and diacetic acid. After a period of two starvation days he was sugar-free and actually gained three pounds in the process of starvation (probably due to water retention).

His diet was then raised as follows:—

Jan. 24. Carbohydrate, 15 grams.
Protein, 25 grams.
Fat, 150 grams. No glycosuria.
Jan. 26. Carbohydrate, 20 grams.
Protein, 35 grams.
Fat, 175 grams. No glycosuria.
Jan. 29. Carbohydrate, 20 grams.
Protein, 45 grams.
Fat, 200 grams. No glycosuria.
Jan. 31. Carbohydrate, 30 grams.
Protein, 45 grams.
Fat, 200 grams. No glycosuria.

At entrance his ammonia was 1.7 grams per day; after the starvation days it ran from 0.9 grams to 0.3 grams per day. The acetone was a little stronger than at entrance; the diacetic absent except on three days.

On Feb. 5 he was still sugar-free (having been so since his starvation days two weeks previously, and weighed 127 pounds, a gain of seven pounds since entrance. At no time did he receive over 2150 calories.

This was a very satisfactory case; no doubt the carbohydrate could have been raised to 50 or 60 grams, but he was doing so well that we felt it unwise to go any further.

CASE 8. A young man of 20 entered Jan. 30, 1915, with 4.5% (75 grams) of sugar, acetone moderate, no diacetic acid. After two days of starvation he became sugar-free and continued so on two vegetable days. After this his diet was raised as follows.

Feb. 3. Carbohydrate, 15 grams.
Protein, 25 grams.
Fat, 150 grams—1320 calories. No glycosuria.
Feb. 8. Carbohydrate, 20 grams.
Protein, 35 grams.
Fat, 175 grams—1850 calories. No glycosuria.
Feb. 14. 25 grams.
Protein, 50 grams.
Fat, 175 grams—1880 calories. No glycosuria.

It seemed wise to keep this case on a restricted diet for a considerable length of time, as he was a severe diabetic, and so we did not attempt to push up the carbohydrate. He is still in the wards, doing very well on this diet, sugar-free and holding his weight.

Weight at entrance, 116 pounds.
Weight Feb. 14, 115 pounds.

Ammonia at entrance was 1.3 grams per day. On the first starvation day it dropped to 0.3 grams, never rose above 0.7 grams, and on Feb. 14 it was 0.16 grams per day. Moderately strong acetone and diacetic acid reactions.

ACETONE, DIACETIC ACID AND AMMONIA.

Of course the great bugbear of any starvation treatment is coma. We have seen no coma nor any signs of it in the eight cases we have treated.

The ammonia has always been low, only in one case reading as high as 2.5 grams per day, which is not at all a high ammonia. Indeed, in most of the cases it has been very low, usually under a gram a day. This very possibly is due to the low protein intake.

We have seen nothing constant in the appearance or disappearance of the acetone and diacetic acid while on starvation. In one case both disappeared, in others they increased slightly and in others stayed practically the same. (Rough quantitative estimations only.)

WEIGHT.

It will be seen that in most of the cases there has been no striking change in the weight, and we feel that most diabetics while in the ward, at any rate, can get along very nicely on 2,000 calories. The patients are kept in bed only during the starvation; after this they are up and around the ward.

No patient has lost more than 5 pounds during his treatment (most of our cases were in the wards about a month) and no patient has gained more than 7 pounds. In most of the cases it will be seen that the weight at discharge was practically the same as at entrance. Of course the patients were not doing any vigorous work or exercise, and it is quite possible that outside the hospital they would not be able to get along on a diet of such a low caloric value.

Now it is one thing to treat a diabetic in a hospital ward where the diets, urine, etc., can be accurately controlled, and quite another thing to treat him at home. All our diabetics have been discharged to the out-patient department, and it has been found that practically all of them, no matter how well they may do on the ward, show sugar on their return to the out-patient department, perhaps a week or two after they have left the ward. For this reason we have had some very careful diets figured out (for which we are indebted to Miss Eckman, the dietitian of the hospital) and with these diets the patients can keep on just exactly the same food that they had while in the hospital. The time has been too short for us to follow many of these cases on the outside, but we feel that most of them, who are of the average intelligence and perseverance, will do well.

TABLE I.

Protein	10 grams
Carbohydrate	15 "
Fat	7 "
Calories	200

String beans	4 heaping tablespoonfuls		120 gms.
Carrots	2 "	"	70 "
Asparagus	4 "	"	150 "
Spinach	3 "	"	135 "
Cucumbers	3 heaping tablespoonfuls		75 gms.
Celery	6 medium pieces		100 "

The vegetables are twice boiled.

TABLE II.

Protein	7 grams
Carbohydrate	15 "
Fat	6 "
Calories	150

Asparagus	2 heaping tablespoonfuls		75 gms.
Onions	2 "	"	150 "
Spinach	2 "	"	100 "
Cabbage	2 "	"	65 "
Celery	6 medium pieces		100 "

The vegetables are twice boiled.

TABLE III.

Protein	29 grams
Carbohydrate	16 "
Fat	167 "
Calories	1654

Butter	3 squares		50 gms.
40% cream	8 ounces		
Eggs	1		
Bacon	2 slices		50 "
Salmon	small helping		50 "
Cabbage	3 heaping tablespoonfuls		100 "
Turnips	2 "	"	100 "
Parsnips	4 slices		100 "
Carrots	3 heaping tablespoonfuls		100 "

TABLE IV.

Protein	22 grams
Carbohydrate	14 "
Fat	155 "
Calories	1597

Butter	3 squares		50 gms.
40% cream	8 ounces		
Steak	1 small slice		50 "
Bacon	2 slices		50 "
Parsnips	8 slices		200 "
String beans	8 heaping tablespoonfuls		100 "
Cabbage	12 "	"	100 "

TABLE V.

Protein	38 grams
Carbohydrate	26 "
Fat	198 "
Calories	2107

Butter	3 squares		50 gms.
40% cream	5 ounces		
Eggs	2		
Chicken	1 small slice		25 "
Bacon	2 small slices		50 "
Spinach	2 heaping tablespoonfuls		100 "
Onions	1 "	"	100 "
Salt pork	2 small slices		50 "
Celery	6 medium slices		100 "
Lettuce			100 "
Olive oil	1 tablespoonful		13 "
String beans	3 heaping tablespoonfuls		100 "
Tomatoes	3 "	"	100 "

TABLE VI.

Protein	47 grams
Carbohydrate	34 "
Fat	183 "
Calories	2046

40% cream	5 ounces		
Eggs	1		
Cream cheese	3 cubic inches		60 gms.
Bacon	2 large slices		75 "
Haddock	1 small helping		50 "

Olive oil	2	tablespoonfuls	25 "
Lettuce	10	leaves	50 "
Potato	1	heaping tablespoonful.	25 "
Beets	3	" "	100 "
Spinach	2	" "	100 "
Almonds	10	large	15 "

TABLE VII.

Protein	50 grams
Carbohydrate	48 "
Fat	180 "
Calories	2200

Butter	4	squares	60 gms.
40% cream	1	cup	
Eggs	2		
Steak	1	small slice	60 "
Bacon	2	large slices	60 "
Ham	2	small slices	60 "
Lettuce	10	leaves	50 "
Asparagus	1	heaping tablespoonful.	35 "
String beans	1	" "	35 "
Spinach	1	" "	50 "
Orange	1	large	250 "
Bread	2	small slices	35 "

TABLE VIII.

Protein	45 grams
Carbohydrate	65 "
Fat	230 "
Calories	2600

Butter	7	squares	105 gms.
40% cream	10	ounces	
Eggs	1		
Lamb chop	1	.....	100 "
Spinach	4	heaping tablespoonfuls	200 "
Corn	2	" "	100 "
Grape fruit	1	.....	600 "
Kidney beans	2	heaping tablespoonfuls	70 "
Peas	2	" "	60 "

TABLE IX.

Protein	62 grams
Carbohydrate	30 "
Fat	250 "
Calories	2700

Butter	3	squares	40 gms.
40% cream	6	ounces	
Eggs	1		
Salt pork	3	slices	100 "
Bacon	2	slices	50 "
Chicken	1	small slice	50 "
Chops	1	.....	100 "
Turnips	2	heaping tablespoonfuls	140 "
Cabbage	3	" "	100 "
Cauliflower	2	" "	120 "
Asparagus	3	" "	100 "
String beans	3	" "	100 "
Parsnips	8	slices	200 "
Bread	2	small slices	35 "

TABLE X.

Protein	77 grams
Carbohydrate	52 "
Fat	266 "
Calories	3011

Butter	4	squares	60 gms.
40% cream	10	ounces	
Eggs	2		
Turkey	1	slice	100 "
Bacon	2	slices	50 "
Lettuce		.....	10 "
Potato	1	heaping tablespoonful.	50 "
Squash	1	" "	50 "
Bread	3	small slices	50 "
Celery	2	stalks	25 "
Almonds	8	large	10 "

Tea and coffee with saccharin is allowed with all these diets.

The bacon and pork is weighed uncooked, and in the calculation of fat and calories, allowance is made for the fat lost in cooking.

The calories in these diets are usually put in round numbers; a variation of 6 or 8 calories, one way or another, makes no difference.

LABYRINTHITIS FOLLOWING OPERATION FOR ATRESIA.

BY GORDON BERRY, M.D., WORCESTER, MASS.

THIS paper considers a case of atresia of the external auditory meatus with unfortunate complications following operation which has puzzled not only the writer but those with whom he has discussed the case. Let me sketch it out roughly that you may see at a glance the picture in its entirety.

HISTORY AND COURSE.

An apparently normal boy of fifteen years, Joseph D. by name, came to the hospital clinic complaining of deafness on the left. He gave a history of a mastoid operation on this side when a baby, and a brief record of the operation was found, but the writer was unable to discover either then or later any present trace of it, so complete was the healing. Examination revealed a normal ear on the right and a normal auricle on the left, with the left auditory canal entering only as far as the bony isthmus, where it became occluded by a solid bony wall. Hearing tests revealed a functionating cochlea. He had been advised by men at the New York Eye and Ear Infirmary (patient's statement) to have an operation performed on this ear. The fact that the canal was already patent two-thirds of the way, making an operation seem relatively simple, was probably instrumental in persuading them to this conclusion, as it did three of us who saw the case in Worcester. The operation was performed in December, 1913, or thirteen months ago. The technic consisted in continuing the canal opening by chisel and curette, somewhat after the method of the Heath operation, until a tympanum was reached. This was carefully left alone. After five days the artificial canal was skin-grafted, not the middle-ear. The hearing was improved. Granulation tissue began to spring up actively in the middle ear, though the operator had thought himself successful in not injuring this cavity. After two weeks a very slight irregularity of gait (toward the left) was noted but not given any significance. In three weeks the boy walked home from the hospital and, on the way, first showed any marked labyrinthine symptoms by falling. Vertigo became rapidly worse. An ocular nystagmus was present and was such as a labyrinthitis on the operated side would give. Clear negative spinal fluid under pressure was removed, without relief. The boy gradually became unruly, irrational, and at times very noisy. He could not stand alone without falling (to the left). His speech was thick and slurred, like that of a drunken man. After waiting two months from the first operation, it was decided that the vertigo would not disappear without

help, and on the basis that it was caused by granulation tissue pressing on the oval and round windows, a radical mastoid exenteration was performed and the offending tissue in the tympanic cavity removed as thoroughly as possible. A primary skin-graft was applied to further control granulations. For a month he was better, but not much. The granulations required repeated cautery and instrumentation to keep under control. At the dressings, pressure applied to the middle ear region made the symptoms of vertigo and muscular incoördination worse. Consultation with surgeons and neurologists offered no solution excepting the suggestion that any measure offering possible relief was justifiable. Meningitis and brain-abscess were considered, only to be ruled out. Two months and a half were allowed to pass, and conditions, instead of improving, were becoming aggravated. The cochlea and the labyrinth on the operative side both responded positively to tests and were consequently active. The mastoid was at no time tender, nor did he complain particularly of headaches. Concluding that granulations had worked their way through the oval or round window and in some way were proving a source of irritation, it was decided to destroy the labyrinth and part of the cochlea in so far as possible on that side, with the expectation that the other side would soon offer compensation and matters clear. Desiring to make this a final effort, the writer did not satisfy himself with tapping the external semi-circular canal or with entering the promontory. Each canal was opened for over half of its circumference. The vestibule was entered from behind and from in front, and easy access established for a probe to pass under and around the facial canal (without disturbing the nerve). The bridge between the oval and round windows was broken down and the basal whorl of the cochlea exposed from here forward until it disappeared around the bend. A slight cerebrospinal fluid escape was noted on opening the horizontal semi-circular canal.

Operative Anatomical Findings. 2.5 cm. in from the anti-tragus or 1.2 cm. from the cochlea (the right drum-head was 3.1 cm. from the anti-tragus), a large canal closed itself off in a smooth-walled round cavity. For a little way there seemed to be a fissure-like lead toward the tympanic cavity, but this became rapidly obliterated. 2-3 mm. further in an opening was found which soon emptied into a typical tympanic cavity, of about the normal size. No drum was present. A suggestion of tympanic ring was seen. No ossicles were found. The middle ear appeared to be lined with thin mucous membrane, and the first operation was stopped here in the hope that this membrane would help to keep the cavity open. The radical and labyrinthine operations revealed still no ossicles, a patent eustachian tube, apparently an open oval window, a small attic, a small antrum, somewhat undeveloped mastoid cells, small pneumatic in type, normally placed semi-circular canals and vestibule and cochlea and facial canal, a vestibule of the usual size, no tensor tympani as far as could be seen. It should be noted that the search for the stapes was made in a mass of fibrous granulation tissue and it may well have escaped detection. Most writers report the presence of this ossicle.

POST-OPERATIVE COURSE.

The labyrinth operation was performed on April 30, 1914, four and a half months after the first operation. The irritative symptoms referable to the affected side and present before the labyrinthectomy, were now almost gone, and a more marked nystagmus referable to the sound side developed. Following the operation there was a short period of constantly rational mentality. The temperature, which had been normal, rose to 100 or 101° in the afternoon for two weeks, and then quieted. There was an abundant serous flow on the dressings. After three weeks he was gotten out of bed to walk a few steps each day. Granulations were encouraged that the connection through to the meninges might become blocked off. This occurred one month after the operation, and was followed that night by vomiting and paralysis of the external rectus on the operated side. The pupillary reflexes remained normal; photophobia was present and remained for several weeks. The white count at this time was low as usual (7,400). The withdrawal of clear negative spinal fluid from time to time alleviated symptoms a little. Vomiting two to five times daily continued for two weeks, with partial suppression of urine. Caloric and turning tests showed the labyrinth on the operated side to be destroyed, but the hearing apparently but little changed by the opening of the cochlea. In the middle of June, one month and a half after the labyrinth operation, a much reduced cavity was scabbed over, dry, and all but healed, this scab being removed a week later to reveal a completely epidermatized cavity.

Extracts from bed-side notes:—

January. 7th. Ocular nystagmus to right and falls to left. 12th. Cold syringing to A. S. increases right nystagmus; cold syringing to A. D. stops a little the right nystagmus and gives left nystagmus. Blood pressure, 120 mm. 18th. Right turning, head 30° forward; after nystagmus, left, 40-50 seconds; left turning, after nystagmus, right, 50-60 seconds. 15th. 30 c.c. spinal fluid out under pressure, causing frontal headache for five minutes. 21st. 3-4 drops only of spinal fluid out. Noisy. Slurs words more.

February. 4th. Quiet if in bed. Noisy when up in chair. Right nystagmus same; only slight nystagmus to left. 12th. Worse. More noisy. Hid under bed to escape a sick child in next bed which he claimed was annoying him. Radical mastoid operation. 15th. Quieter. Speech a little more slurred. Nystagmus better. 18th. Mentally more rational for first time since radical operation. Speech and nystagmus a little better. 19th. Out of bed for a few steps. 23rd. Walks alone but with difficulty.

March. 8th. Tried his hearing for piano music. Objected to playing the upper notes; enjoyed music in the middle register; did not mind playing in the lower register. 12th. Fell out of his wheel chair. More dizzy. Been unable to walk alone for two weeks. 15th. Hard to manage in the ward. Disobedient. 19th. Nystagmus to either side. Cold syringing for one-half minute in either ear (head back 60°) aggravates this; and this induced nystagmus better on sitting up, to return on lying down. 30th. Limbs seem more incoördinated in left hand and right foot.

April. 7th. Pressure with probe in middle-ear region always exaggerates the vertigo and incoördination. 28th. Cold syringing left, gives nystagmus. Right in 1 1/2 minutes, lasting 3 1/2 minutes. Cold syringing, right, gives nystagmus, left in 1/3 minute, lasting 4 1/2 minutes. 30th. Labyrinth operation.

May. 2nd. Voluntary nystagmus to right marked.

Controlled on looking to extreme left. 5th. No change excepting less control over left arm. 13th. More irritable. Got out of bed and tore off bandage. 15th. Note a slight nystagmus on looking to left. Voluntary nystagmus to right continues. 19th. Restive and disobedient. Pulled off dressing. 22nd. Out of bed a little. 25th. Seems stronger. Walked twice the length of the ward with help. Almost no meningeal discharge from cavity.

June. 2nd. No serous discharge from cavity today. Vomited twice last night. Partial paralysis of right external rectus. 3rd. 30 c.c. spinal fluid out under slight pressure. Left limbs are more spastic and jerky. Partial urine suppression. 5th. A little quieter but vomited twice last night. 11th. Averages two vomitings daily, and urinating once a day. 15th. Vomiting worse; five times today. Ear cavity shows dry scab. 18th. Patient finds that rotating his own head makes him vomit and temporarily relieves his nausea and the bad taste in his mouth. Vomited but once today. A mouth wash helps. 21st. Urine more free. Up on feet today, showing a little better control. Ear cavity epidermatized.

July. 1st. More steady on feet. 5th. Photophobia. Crawls around when nurses are not watching (not trusting his legs). Nystagmus more marked. 11th. Photophobia gone. 15th. Nystagmus less. 23rd. Cold syringing to A. S. gives no reaction in six minutes; to A. D. gives nystagmus in 1 1/4 minutes, gone in 2 1/2 minutes.

By two months after the labyrinthine operation the external rectus paralysis had become much less, and has since remained almost the same. The vomiting stopped; the slurred speech became a little better. The ear continued healed. Late in September (or five months after the last operation) there was but little further change. Under the conviction that there was some deeper-seated irritative or pressure focus at or near the floor of the brain, causing the ocular muscle paralysis, the ataxia, and the vertigo, and feeling that this came under the province of the brain-surgeon, I sent Dr. Harvey Cushing a brief account of the case, in the hope that he might shed some light upon the matter. He most kindly consented to do what he could, and added that my history suggested a serous meningitis, for which he feared but little could be done. We were preparing to send the patient to the Peter Bent Brigham Hospital, but at just about this time he began to improve and we kept him in Worcester. He was increasingly able to control his limbs and unruly periods were less frequent; and he could speak more distinctly.

One year after the first operation and seven and a half months after the labyrinthectomy, he was finally discharged from the hospital. At this time he could walk the length of the ward unaided, but with a characteristically halting gait, could walk up and down stairs, could feed himself, could read, and could speak clearly. He went home to trying conditions, where nagging children, a drunken father, and an over-worked mother made life unpleasant. The boy became steadily worse until in a fit of temper last week he began throwing furniture about the room, and broke a window with his bare hand. The ambulance took him to the police station and thence back to the hospital, where he is now, without since having any further outbreak. During this stay at his home last month he was taken to the State Insane Hospital near the city, and for a week subjected to careful tests with a view to possible admission; after which he was returned home and declared not insane nor more mentally deficient than his up-bringing could account for.

CONSIDERATION OF CASE.

The case divides itself naturally into two heads: that dealing with the atresia, and that dealing with the labyrinthitis. First as to the atresia and its operative remedy,—Bezold has estimated that one out of two thousand cases show unilateral or bilateral microtia and atresia. The operation has been performed a good many times here in Boston with varying degrees of success. In most cases it has been done in children where both ears were involved. Against the argument that an external deformity infers internal impairment, rendering operative interference useless, Politzer and Kerrison point out that the middle and internal ear come from different embryonic sources than the external; and that faulty development of the latter by no means infers variations in the former. Alexander[1] deduced from many autopsies that in the vast majority of cases with congenital deformity of the auditory tract, the deformity was limited to the conducting apparatus alone, or to the perceiving apparatus alone. Looking at it from the other side, Page[2] says that "it can be definitely stated that cases of defective development of the internal ear are rarely if ever found to be associated with atresia of the canals in otherwise healthy infants." For instance, one never sees a microtia in a deaf-mute. Alexander[1] insists on a patent eustachian tube, and no facial paralysis, as evidence of normal development of the middle and internal ears. When the child is old enough, the activity of the cochlea can be demonstrated by a hearing test, as was done in the case before us.

Hearing Tests. In this case despite the partial destruction of the cochlea, we seem to get a better hearing than was present before. The sound right ear was almost normal and need not be considered here. On the left, the low whisper vowel sound ("four") could not be heard before the operation; now he hears it at four to five inches away, and the low consonant sound ("six") at fourteen feet (a high note). The loud whisper was heard "ad oram," now he hears it at sixteen feet. The bone conduction has remained the same, seven seconds for a 512 vs. fork (normal = 12"). The bone conduction on the right was also seven seconds. He hears all the forks by bone, and in the left ear when applied to the mastoid, excepting the 64 vs. fork. By air he fails to hear the lower forks, the low limit before the operation being 2048 vs., and after the operation, 1024 vs. From there up he hears the remainder of the normal tone scale excepting possibly a little shading off of the top register. Barany's noise-apparatus was not employed until after the operation on the labyrinth, and appears to negative the contention that the hearing was maintained or distinctly improved, as with its use in the sound ear, he can only distinguish a shout on the left. The writer is inclined to question the absolute value of this test in this case, as the sound ear was plugged

very tight during the repeated whisper tests, ointment being used to further ensure a complete closure of all possible crevices around the plug.

Page's[2] cases show the development of a working hearing in most of them. Kosokabe[3] reports two cases operated on by him in Japan and benefited. Danziger[4] of New York gives a successful case of particular interest here, as it was the only one the writer could find reported as developing post-operative labyrinthine symptoms (in a nystagmus to the affected side). But this came on four months after the operation, when the patient had been discharged healed, and is ascribed to an erysipelas which developed at this time: the labyrinthitis being due to a "collateral edema". Lewin[5] of St. Petersburg, also reports a good result. The literature is surprisingly scanty when one considers the number of cases which must go to operation.

This leads to the question of the operative method to be employed. Because the jaw articulation was usually so far back in these cases, Michaeil Jaeger[2,6] suggested in 1837 that the entrance be by way of the mastoid cells and antrum. Using this suggestion, some have made this the avenue of approach and skin-grafted up into the antrum, but not with good results. The more recent workers, realizing that the stapes alone is likely to be present, and appreciating the extreme difficulty of keeping the granulations down through a small canal, do not try to preserve the middle ear but recommend a radical tympano-mastoid exenteration, and an early skin-graft. This affords room to work in and moreover ensures a canal which later cicatricial contraction will not make too small. Dr. Page[2] expresses well the more advanced conservative opinion when he concludes: "that operation is warranted in practically every case of congenital bilateral microtia with total osseous atresia which occurs in an otherwise well-formed infant; that when the child has reached the age of two years and his attention can be attracted by sounds through the air, such as whistles, calls, etc., x-ray photographs should be made (under anesthesia), and the operation should be performed through the mastoid, posterior to the line of the canal. The antrum should be opened and, unless a normal drum-membrane be found, the contents of the tympanum with the exception of the stapes should be entirely removed and a large exposure of the inner tympanic wall obtained. Injury to the jaw can be avoided by working from the antrum forward. The eustachian tube, if present should be closed by curetting."

To go more into detail with regard to the labyrinthine complication following the operation, in an effort to determine whether the results in this case should condemn operating on atresia, necessitates taking up the mental aspect of this case. The boy had not been noted as being particularly backward in school. During the routine ear examination prior to the first operation he seemed to the writer to possess the average amount of intelligence of a boy of the street. He certainly was normal gaited and spoke distinctly and to the point. Subsequent examination by neurologists pronounced him a mental deficient. Further, an examiner from the Waverley School for Defectives tested him and reported his mental capacity to be that of a boy of ten. It was pointed out that the lad had begun life as an illegitimate child; that a habit of self-abuse established over a year prior to his coming under our observation would indicate moral obtuseness; and that further evidence of mental deficiency could be gained from his disposition when at his best, to hector the older patients or tease the children; or at his worst, to do them physical violence, tear off his own dressing, yell at the top of his voice when angry, or refuse to do as bidden by the nurses. Over against this is the evidence as presented by the asylum authorities that the boy is neither insane nor mentally deficient. The writer is inclined to the opinion that he is a little deficient or backward, if you will, but accounts for these paroxysmic outbursts as merely evidences of an uncontrolled temper which could be generally traced to some irritative cause.

But this explanation does not bring us to a solution of the post-operative complications. We have here a clean initial operation, relatively simple, keeping relatively clean. At a time when the granulation tissue had begun to develop more rapidly, we first get a labyrinthine irritation. A low white count, the absence of temperature, a normal pulse, a negative fundus examination, a negative Wassermann reaction, negative spinal fluid (negative to the globulin reaction, reducing Fehling's solution, sterile, and with normal specific gravity and cell count): these all tend to combat the meningitis idea. From here on the tale is a pure repetition in which we are trying to catch up with Trouble.

Having thus considered the subject of atresia, operative methods for its correction, and the untoward results which this particular case developed, permit me to enter for a moment the other phase into which this discussion naturally leads us, that of the labyrinthitis. In our case there was a certain amount of sepsis in spite of every precaution, and we must think of a possible infective labyrinthitis. But Ruttin says in his report of fifty labyrinthine cases (p. 59) that an "acute otitis practically never gives rise to a circumscribed or a diffuse serous secondary labyrinthitis and only exceptionally to a purulent labyrinthitis." He calls attention (p. 42) to a rather frequent complication following the radical mastoid operation where we get a diffuse secondary serous labyrinthitis in one to three days, and clearing after three to five days.

There have been a good many labyrinthine operations done for severe vertigo or unbearable

tinnitus alone. For these the interference has become lately less radical till the writers satisfy themselves with tapping the horizontal canal, or they refrain from the operation altogether.

Labyrinthine Tests in This Case. 10. A reference to the labyrinthine reactions in our case may well be entered here. Before the labyrinthectomy, the tests showed a functionating labyrinth. The nystagmus was toward the right or healthy side. Rotation ten times gave an after-nystagmus toward the left of 40-50 seconds; and rotation to the left gave an after-nystagmus of 50-60 seconds to the right, giving a slightly longer reaction for the sound ear. At the time of reporting, there is a partial compensation so the proportions are not as extreme as they were at first, but we get an after-nystagmus of 12 seconds for the right turning, and of 30 seconds for the left turning.

If, now the head be bent forward and the face toward the left shoulder, right turning stimulates the left superior canal, which is now horizontally placed, and gives an after-nystagmus of 12 seconds, while rotation in the opposite direction stimulates the right posterior canal and we get an after-nystagmus of 25 seconds. With the head forward, but toward the right shoulder, turning to the left stimulates the left posterior canal with an after-nystagmus of 11 seconds, while rotation to the right stimulates the right superior canal and we have an after-nystagmus of 25 seconds. In other words, the after-nystagmus referable to the right or sound side is twice as long as that referable to the left, in each instance; a result we would expect after the destruction of the left labyrinth.

The caloric reactions corroborate these results: Cold syringing to the affected ear before the labyrinthine operation elicited a nystagmus in 20 seconds, which disappeared in 4 1/2 minutes; and to the sound ear, in 1 1/2 minutes, which disappeared in 3 1/2 minutes. After the operation, cold syringing to the affected ear gave no response, even after six minutes of syringing, while the sound side gave naturally about the same reaction.

As to the voluntary nystagmus, before the operation it was marked to the sound side and slightly present to the diseased side (an irritative nystagmus), while immediately after the operation the nystagmus was entirely toward the sound side.

Falling is toward the left or in the direction of the slow component. In locating objects with his leg or hand, that is, using the localizing test, he tended to go to the left of the object sought. At present he still has more trouble in controlling the movements of his left arm. If anything, he points a little more to the left or to the outside with the left arm and normally with the right. After syringing the sound (right) ear with cold water, the right arm points to the right, while the left arm points uncertainly to either left or right, but seems less affected by the syringing than the right arm.

Probably on account of his ocular paralysis more than from the nystagmus, there is a tendency to keep the head about twenty degrees toward the left from the mid-line. When the nystagmus to the right was severe, he preferred to lie on his right or on the sound ear.

In other words, all the tests showed an initial labyrinthine or cerebellar irritation on the left, followed after the operation by an excessive irritative nystagmus, right, non-compensated, which later became gradually compensated. Ruttin[7] says in this connection, that if the labyrinth was totally destroyed, compensation will ultimately become complete.

The tests above noted seem to show a total destruction of the affected labyrinth by the last operation. The vertigo was made worse as was expected, but why did not this clear more rapidly? Alexander[1] keeps his post-operative cases in bed six weeks and Ruttin[7] deems ten days sufficient. This case has been months rather than weeks, and he cannot yet walk without noticeable attempts being made at muscular co-ordination. Must not the irritative focus be referred to the nerve path behind the labyrinth, or to the meninges? The future conduct of the case will be an effort to keep the boy under favorable conditions where he can continue to learn the control of his muscles. Judging from the past, the writer ventures to predict that ultimately the co-ordination will be almost perfect.

TO CONCLUDE BRIEFLY.

We have here a boy of fifteen operated on for a partial atresia with apparent improvement in hearing. Three weeks later and coincident with the springing up of troublesome granulation tissue in the tympanic cavity, a vertigo developed, which has persisted in spite of a radical exenteration, and then a labyrinthine operation. Five weeks following this last operation, the closing off of the drainage from the meninges in the process of healing was attended by marked symptoms of meningeal pressure, which gradually subsided. The ear cavity became epidermatized in six weeks. Now, thirteen months after the first operation, the ocular nystagmus has become fairly well compensated, the hearing is apparently improved, but a muscular inco-ordination, though much better, continues. The consideration of the case naturally divides itself into two main headings, atresia and labyrinthitis, and is discussed above in the following suggestive phases: the age and operative method for relief of atresia; the results to be expected; the cause of the vertigo in this case; the time and the method for operating for labyrinthine vertigo.

LATER NOTE.

In the discussion following this paper Dr. Hurley offered the diagnosis of "Cyst of the cerebello-pontine angle." In the light of this suggestion the author has read Barany's original article on his Symptom Complex[12] as well as taken up again the tests with reference to their bearing on this explanation. He finds that such a retention of fluid as described by Barany would account for many of the symptoms: as certain phases of the nystagmus, and the pointing tests (see above); and the worse paroxysms seemed to be more or less periodic. On the other hand Barany's picture is not present here in its

entirety. For instance, there was but rare headache, and no pain or tenderness over the mastoid-emissary foramen; a complete stopping of the nystagmus to the left immediately followed the labyrinth operation; Barany's reported cases did not show a paralysis of the sixth nerve (though such might be expected); the hearing did not appear worse; and the lumbar puncture gave only questionable relief. Barany accounts for the cystic retention of the cerebrospinal fluid by inflammatory meningeal adhesions or some analogous agent. For such, in this case we could go back to the mastoiditis of infancy or find some anatomic abnormality, either of which would seem to be possible. The invariable aggravation of symptoms by pressure on the granulations in the tympanic cavity does not seem to be so easily explained, though the endolymphatic or nerve connection might account for this.

In short, Barany's symptom-complex, though not appearing to fit all the complications, does seem to explain many, and the writer would express his appreciation to Dr. Hurley for pointing out this possible solution, which the writer so gropingly anticipated when writing Dr. Cushing.

BIBLIOGRAPHY.

[1] Alexander: Zeitschrift für Ohrenheilkunde, Vol. 55, p. 114, 1908.
[2] Page: Transactions of the Amer. Otol. Soc., 1914, p. 376.
[3] Kosokabe, H.: Archiv v. Ohrenheilkunde, 90-3, p. 214 1913.
[4] Danziger, E.: Laryng., Sept., 1913, p. 948.
[5] Lewin, L.: Monatsschr. f. Ohrenheilkunde u. Laryngo-Rhino., 47-916, 1913.
[6] Jaeger, M.: Zeitschrift f. Ophthal., 5, 1, 1837.
[7] Ruttin: Diseases of the Labyrinth.
[8] Blake and Putnam: Trans. International Otol. So., 1912.
[9] Crockett: Transact. Amer. Otol. So., 1914, p. 302.
[10] Braun-Friesner: The Labyrinth.
[11] Kerrison: The Laryngoscope, Vol. 25, No. 3, p. 192, 1914.
[12] Barany: The International Congress of Medicine, Section 16, p. 571, 1913; Archiv. Internat. de Laryng., Vol. 35, p. 384, 1913; Deutsche mediz. Wochenschrift, Vol. 39, No. 1, p. 637, 1913.

THE DIAGNOSIS AND TREATMENT OF SOME RARE FRACTURES.*

BY WM. PEARCE COUES, M.D., BOSTON.

THE consideration and study of rare cases of fracture has a fascination all its own, especially as such study may help others when they encounter them. The knowledge obtained by the diagnosis of one of these rare types of fracture often leads to the recognition of others. Some of the types to be recorded are so unusual that the modern fracture text-books make no specific mention of them, others giving only a most cursory account, a few lines at most. In the general surgical text-books of modern date, some are not mentioned at all. The present question of industrial accident work, which is such a live one, will, I hope, add interest to the subject, as a recognition of unusual types of fracture becomes more and more important, on account of this new medical legislation.

*Read before the Somerville Medical Society, Feb. 4, 1915.

The question of nerve lesion on account of fracture, except in certain classic fractures, is an almost unexplored territory. Undoubtedly, many obscure troubles from peripheral nerve injury on account of pressure from unrecognized fractures, remain undiagnosed.

The question of x-ray diagnosis of fracture is at the present time more important than ever. It is now an undisputed fact that certain fractures can positively be diagnosed only by the x-ray. This has been unfortunate in a way, as it has tended to make a careful clinical study of fractures suffer. "Let's have a picture," is too often heard in our hospitals and dispensaries, before a careful and painstaking examination is made. Cotton has well said that it is often best to have a radiograph after the diagnosis has been made, and correction of deformity attempted, instead of before. Particularly is this true in practice, where the patient has, perhaps, means to pay for only one visit to the radiographer. Most fractures can be diagnosed without the x-ray by careful patient examination. In children a few types, to be spoken of later, are impossible to diagnose, even under anesthesia. Of late we have heard considerable concerning the condition known as sprain fracture, especially from Ross[1] and Stewart of Philadelphia. The term, I think, is a bad one, as it is somewhat ambiguous. What is meant is that the so-called sprain or traction on ligamentous and tendinous structures produces fracture, often unrecognized, in many cases. If so, the case should be called a straight fracture—the sprain or force applied to the ligamentous structures producing the solution in the continuity of bone being a secondary matter. This condition has been called "masked fracture." Eisendrath spoke of it as follows, "The recognition of sprained fractures requires the systematic use of the x-ray in every case of severe sprain." Ross and Stewart estimated that 15% of the fractures treated in the German Hospital in Philadelphia in 1910 were so-called sprain-fractures. They considered that the x-ray was not essential to the diagnosis, and that the external malleolus was the most frequent site of the fracture. Fifteen per cent. of all fractures are sprain-fractures, according to Ross and Stewart. They believe that sprain-fractures probably are a part of the pathology of every dislocation.

A study of unusual fractures would be incomplete without reference to epiphyseal separations, some of the rarer forms of which were entirely unknown until Poland's classic work on the subject some 16 years ago.

We now pass to a consideration of some special types of fracture of rare or infrequent occurrence. They are of interest to all. They may be the next case we encounter in our work. I shall consider:

In the Upper Extremity:

1. Fracture of the trochlea of the humerus.
2. Children's Colles fracture (sub-periosteal fracture of the lower end of the radius).
3. Separation of the epiphysis of the first metacarpal bone.
4. Fracture of the carpal cuneiform bone.

In the Lower Extremity

1. Fracture of the fifth metatarsal bone by inversion of the foot, and the occurrence of the Vesalianum or bone of Vesalius in the foot, with its relation to mistaken diagnosis of fracture of the 5th metatarsal.
2. Separation of the lower epiphysis of the fibula.
3. Fracture of the middle and external tarsal cuneiform.

I shall dwell at some length on the first case, as it is very rare and the only correct treatment is operative.

Isolated fracture of the trochlea, the horizontal dice-box at the lower end of the humerus, is of very rare occurrence. Most of the cases are examples of bony injuries to the elbow, where this fracture has formed a part of more extensive injuries. Viewing the humerus laterally, we find at the lower end two half-moon shaped projections extending out at right angles from the shaft, the capitellum on the radial side, and the lip of the inner cone of the trochlea on the ulna. These thin, half-moon shaped projections are guarded on each side by the condyles; probably vulnerable only to force applied antero-posteriorly to the flexed elbow, except in cases of violent crushing injury, where the whole region is converted into a bag of bones. Operative intervention has been usually employed in isolated fracture of the capitellum, as the blocking of the joint usually persists till the fragment has been removed, *i.e.* it acts as a foreign body in the joint. The indications for operation in isolated fracture of the trochlea do not seem to be clearly laid down anywhere. Bony blocking can occur in exactly the same manner as with fracture of the capitellum.

REPORT OF CASE.

E. B., 12 years of age, was seen at the Surgical Clinic of the Boston Dispensary, Nov. 29, 1913.

Examination. Well-developed and nourished girl, no previous traumatism to the left elbow. Two weeks ago she fell on her left arm. She was told by a physician that she had torn a tendon in the wrist. She fell with her arm in front of her, striking the elbow on the sidewalk. The elbow was flexed, but how the force was applied to produce the fracture, she does not know. Physical examination showed very slight swelling and ecchymosis noted over the lower third of the ulna, flexor surface. There was slight tenderness on pressure here. The elbow was held semi-flexed. Active flexion or extension was impossible. The head of the radius rotated. Only a very few degrees of passive extension were possible. About the same amount with flexion. There was slight swelling in the region of the external condyle, with pain on pressure here, but there was no crepitus. The radiograph showed in the lateral view a fragment of bone extending outward at an angle from the joint, upward. It was thought at first that this fragment was from the capitellum and that it was blocking the joint. The antero-posterior view showed nothing abnormal. Forced hyper-extension with pressure over the capitellum and then flexion, gave motion to an acute angle of flexion. It seemed as if manipulation had changed the position of the fragment slightly. The arm was put up in acute flexion. Other radiographs (lateral views) showed that the fragment seemed pushed slightly higher up. The arm was kept in the acute flexed position. Attempts to gain motion were unsuccessful. The elbow remained blocked as before. Nothing being gained after some weeks, operation was done on Dec. 26, 1913, under ether. Lateral incision on the radial side of the joint was made, dissection carried through the superficial and deep fascia and the joint opened. The region of the external condyle was explored and the capitellum exposed. It was found to be intact. Dissection and separation of tissues carried across the middle of elbow joint without finding fragment. I thought best,—unwisely, as it proved,—not to search longer for the fragment, as I supposed that, if the fragment was not the capitellum, recovery with a useful elbow would probably take place in time. Uneventful recovery to exactly the same condition as before operation. A long period was given for chance of improvement with massage and passive motion, but no substantial gain was made, and in August the joint was opened on the other side by Dr. Tenney, and the fragment successfully removed. Also uneventful recovery from the operation. The physical examination in November, 1914, showed extension to practically normal limits. Flexion about two-thirds—a considerable gain. No atrophy, slight keloid condition of the scar of the second operation. Radiograph at this time showed slight roughening where the bone was removed from about the lower end of the humerus.

A search of the literature of fractures brought to light only two other similar cases, which it is of interest to report very briefly with this one.

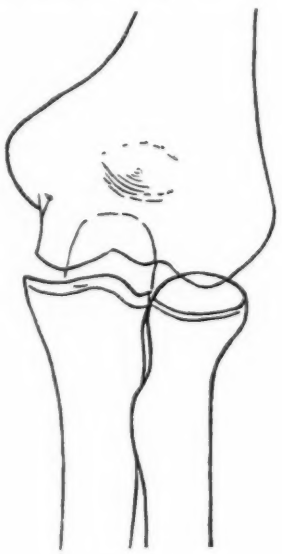

FIG. 3.

Isolated Fracture of Trochlea.
X-ray tracing Dec. 4, 1913. Ant. post. view.
Fragment not visible.

Fig. 4.

Isolated Fracture of Trochlea.
X-ray tracing Dec. 4, 1913. Lateral view. Fragment plainly seen.

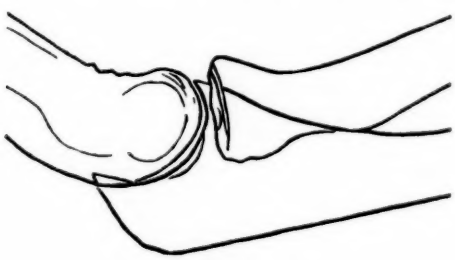

Fig. 5.

Isolated Fracture of Trochlea.
X-ray tracing Nov. 28, 1914. Lateral view after removal of fragment. Note slight roughening lower end of humerus.

They were found in Wendt's[2] "Radiographic Studies of Fracture of the Lower End of the Humerus."

Case 1. The first was a miner 27 years of age. Accident, Apr., 1908. He fell while working directly on the flexed elbow. Swelling of the left elbow and tenderness on pressure were noted. Flexion of 90 degrees, extension much limited, the radiograph in the antero-posterior view showed no bony injury to the elbow joint. In the lateral view, it showed on the flexor side of the joint a half-moon shaped shadow which was, exactly as in my case, thought to be capitellum. But a stereoscopic picture showed that it was from the middle of the trochlear surface of the humerus. Conservative measures gave no improvement in the position, so operative intervention was decided upon. The fragment was removed by open operation. Perfect healing. After operation and massage, flexion and extension were only slightly hindered. There was some grating in the joint; there was no muscle atrophy. In one year there was full return to normal in every way.

Case 2. A miner, 28 years. History of direct fall on the flexed elbow. Examination showed right elbow much swollen, painful to pressure over the trochlea. Flexion to a right angle not possible. Extension of elbow much limited. Fluid in the joint. No abnormal mobility found. The x-ray picture in the antero-posterior view showed nothing but a minute-sized fragment in the distal border of the trochlea. The lateral view showed a half-moon shaped shadow from the trochlea. This was a direct hindrance to flexion. Stereoscopic picture showed that the shadow represented the forward, inner part of the trochlea broken off. Open operation was made, incision on the inner side of joint; removal of the fractured piece; good recovery; at discharge, examination showed flexion and extension somewhat restricted; some grating in the joint; good scar; muscles not noticeably atrophied.

Mechanism of the Production of this Fracture.

The rarity of the fracture, typical x-ray picture, the half-moon shaped piece of bone sticking up from the lower end of the humerus, only visible in the lateral view, make it of great interest. It would seem as if there must be a definite and constant method in the application of force which produces it. Unquestionably the production of this fracture is made by force applied to the flexed elbow, for it is a flexion fracture par excellence. My attempts to reproduce the fracture on the cadaver were unsuccessful. A direct blow on the upper part of the ulna, with the elbow flexed, gave a high fracture of the ulna. A direct blow on the lower end of the humerus over the trochlea, gave a clean separation of the whole of the lower humeral epiphysis. The only method which produced a fracture in any way similar to the clinical one was direct force, by mallet and forceps used as a chisel to the trochlea itself.

Children's Colles Fracture.

This fracture has never before to my knowledge been described with the above title. It is a sub-periosteal transverse fracture of the lower end of the radius occurring in children after a fall on the hand or lower end of the radius, in the same manner as the adult Colles fracture is received. The fracture is somewhat higher than the typical adult fracture. I have never seen a typical example in an adult, and I have seen about a dozen cases in all. The age most common is from 10 to 14 years. The fracture being sub-periosteal, there are clinically no deformity and no crepitus. The cases are often mistaken for sprained wrists. Locally, we have extreme pain on pressure over the seat of the fracture, very rarely ecchymosis and surprisingly little swelling. It is absolutely necessary to have two views, as in all fractures, when the radiographs are taken. The antero-posterior view may only show a little bulge on each side of the radius, low down, so slight as to be missed if one is not expert in interpreting radiographs of fractures. The treatment is not different from that of any other such fracture, without displacement. Recognition is the important thing, as unrecognized, the fracture may lead to subsequent trouble.

The following case illustrates this type of fracture:

Case 3. K. M., 14 years of age, was seen at the Surgical Clinic of the Boston Dispensary, Dec. 26, 1914.

History. Four days ago she fell, striking on her left wrist. Exact position of arm and wrist when she fell not known to the patient.

Physical Examination showed very slight swelling

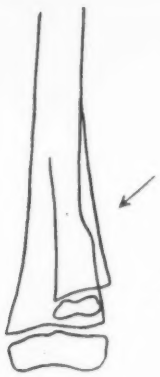

FIG. 1.

Children's Colles Fracture.
X-ray tracing Dec. 26, 1914. Lateral view. Note slight depression in periosteal line of radius.

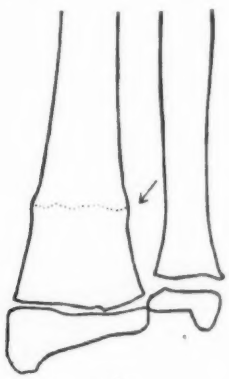

FIG. 2.

Children's Colles Fracture.
X-ray tracing Dec. 26, 1914. Ant. post. view. Note slight bulging on either side of radius.

of the wrist, extending upward over the lower third of the radius. There were no ecchymosis and no crepitus. There was considerable tenderness on pressure over the lower end of the radius.

The diagnosis before a radiograph was taken lay between sprained wrist, separation of the lower epiphysis of the radius and sub-periosteal fracture. A radiograph showed a sub-periosteal fracture at the lower end of the radius. The antero-posterior view showed slight bulging spoken of above on each side of the lower end of the radius, about one inch above the lower end of the diaphysis. The lateral view, as is usual in these cases, showed a depression plainly in the periosteal line at the point of fracture.

Perfect recovery followed the usual treatment, as would be expected.

SEPARATION OF THE EPIPHYSIS OF THE FIRST METACARPAL BONE.

This bone develops by two centers, one for the shaft and one for the epiphysis, which is at the proximal instead of the distal end, as in the other metacarpals. I have recorded three cases of separation of this epiphysis.[3] The diagnosis is not easy without an x-ray. It may be confounded with the Bennet fracture or the "punch fracture," by which is meant a transverse fracture of the metacarpal just above the epiphyseal line, and which displaces the epiphysis with the lower fragment of the diaphysis. The importance of a radiograph in cases of injury to the thumb where there is question of these lesions is self-evident.

FRACTURE OF THE CARPAL CUNEIFORM.

This is a very rare injury. I have a record of one case, and knowledge of two others, only, one of which was successfully operated on and the fragment causing trouble removed. I have not found any cases in modern works on fracture. The case which I made this diagnosis in was treated for sprained wrist for some time without radiographs being taken. It illustrates well the importance of radiographs in all wrist injuries. There had been disability in this case for some months. After recognition of the fracture and immobilization for a considerable time, a good recovery was made.

In the lower extremity we will consider first, the separation of the lower epiphysis of the fibula, of which one example has come to my notice in a boy subject of fragilitas ossium. This boy had previously had fractures of the thigh, leg, arm and fingers,—six previous fractures in all. The injury was received in jumping from the porch to the ground, the right ankle turning under him. He was able to walk after the accident, but with a considerable limp. Physical examination showed the right ankle was swollen in the region of the external malleolus. There were no ecchymosis, no abnormal mobility, but there was a point seemingly sharper than normal felt in the region of the external malleolus.

The diagnosis before x-ray was uncertain. Sub-periosteal fracture of the lower end of the fibula, an ordinary fracture of the lower end of the fibula or sprained ankle, were considered. Separation of the epiphysis was not considered. The x-ray showed a separation of the lower epiphysis of the fibula. Treatment by plaster of Paris. Perfect union of the fracture in ordinary time, in spite of the condition of fragilitas ossium. It is of interest in connection with this case that the boy had the blue sclerotics, common in this condition of brittle bones, the incidence of which has been recently studied.

Fracture of the fifth metatarsal bone by inversion of the foot was first described by Robert Jones in 1902.[4] Previous to that time, it was thought that such a fracture was impossible without direct violence. As in other fractures of this type, the diagnosis is the all-important thing, the treatment being generally a routine one. In the production of this fracture, the foot is inverted and the whole weight of the body may momentarily be borne across the foot on the fifth metatarsal. The following case is an example.

CASE 4. The patient, a well-developed woman, seen in August, 1913, slipped in a road at dusk, inverting left foot, so that weight was borne on its outer border. There were great pain and disability at once. Examination showed the outer border of the left foot swollen, a slight prominence at the

base of the fifth metatarsal, with some abnormal mobility. There was exquisite pain on pressure over this spot. There was no ecchymosis. Examination of the ankle was negative. An x-ray showed a transverse fracture at the base of the fifth metatarsal bone. Foot immobilized in plaster of Paris; crutches. Good result, but some pain off and on for some time after the fracture had united. Consideration of this fracture would not be complete without speaking of the occurrence of the Vesalianum or bone of Vesalius. It is excessively rare, but the possibility of its occurrence should always be thought of, in considering fracture of the base of the fifth metatarsal bone, as the radiograph of the Vesalianum gives the appearance of a fracture at the base of this bone, and the only positive way to be sure that we are not dealing with this rare abnormality is to have a radiograph of both feet taken when there is probability of this fracture.

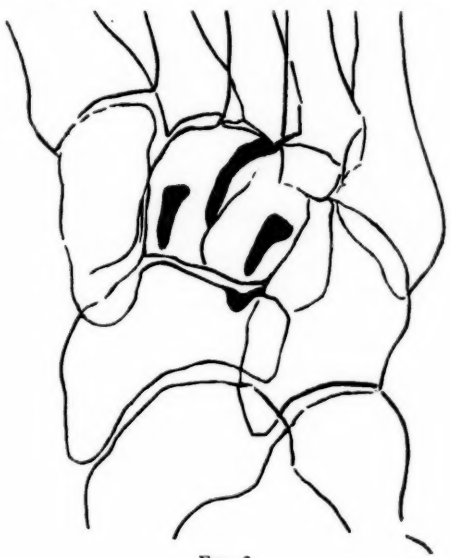

Fig. 6.

Fracture of Tarsal Cuneiforms.
(External and Middle.)
X-ray tracing Dec. 3, 1913. Antero-post. view. Fracture lines heavily shaded. Note chip off scaphoid also.

FRACTURE OF THE TARSAL CUNEIFORMS.

Fracture of the cuneiform bones of the foot is of extremely rare occurrence; probably almost as rare as the fracture of the carpal cuneiform. Only, as there are three cuneiforms in the foot and one in the hand, there is more chance of the possibility of a fracture. I have been unable to find an instance, excepting for the following case, for which I am indebted to my friend and colleague at the Boston Dispensary, Dr. Henry M. Chase, in whose service it occurred. Brief history is as follows:—

Case 5. Male, 33 years. Seen at the surgical clinic of the Boston Dispensary, Dec. 3, 1913.

History of striking the right foot against the door two nights ago. Patient was sent to the Dispensary by the district physician.

Examination showed much pain over the cuneiform region; the foot was only slightly swollen.

Definite diagnosis absolutely impossible, without radiograph.

The foot immobilized; patient given crutches; Dec. 5 the x-ray showed multiple fractures of the middle cuneiform and probably also of the external cuneiform, with a slight chip into the scaphoid also. Patient failed to report again for treatment.

It will be seen that in many of these cases of obscure and unusual fracture, treatment does not differ from that in routine cases; but the diagnosis is all-important. Lack of recognition of seemingly slight fractures, particularly subperiosteal, may lead to deformity, even though at the time they seemed trivial affairs. This is particularly so of the long linear cracks in the bones of the leg. If these fractures are unrecognized harm may result in weight-bearing, causing spreading of the fracture and subsequent static deformity. Fragments may break through the periosteum, excessive callus form and cause trouble. Children often complain of surprisingly little pain in sub-periosteal fracture; often there is very slight disability. There is no crepitus with a pure sub-periosteal fracture. In a few cases, such as the trochlea fracture recorded above, correct treatment is only operative, for the joint will never renew its normal functions while the fragment is in it; and failure to make a correct diagnosis will lead to permanent disability. Each recognized case of rare or unusual fracture leads to the recognition and successful treatment of others.

REFERENCES.

[1] Ross and Stewart: Annals of Surgery, Vol. 55, pp. 72-87.
[2] Die Verletzungen des Ellenbogengelenks im Röntgenogram, 1910, pp. 33-34.
[3] Coues, W. P.: Annals of Surgery, 1912, p. 431; Boston Med. and Surg. Jour., Vol. clxix, pp. 21-23.
[4] Jones, Robert: Annals of Surgery, 1902, Vol. xxxv, p. 697.

Medical Progress.

REPORT ON DERMATOLOGY.

By John T. Bowen, M.D., Boston.

TREATMENT OF LUPUS ERYTHEMATOSUS BY CARBON-DIOXIDE SNOW.[1]

Haslund of Copenhagen has contributed an article on this subject to the *Annales*, which is of especial interest on account of the author's association with the Finsen Light Institute, in which cases of lupus erythematosus have been extensively treated by phototherapy.

He claims that the Danish physician Dethlefson, in 1900, was the first to make use of the caustic effects of cold, in proposing to treat lupus vulgaris by means of chloride of ethyl; soon followed by others with methyl chloride, liquid carbonic acid, etc. Next came liquid air, used with success by Dade of New York. These methods all had the disadvantages of having a superficial and transitory action, which is limited

with great difficulty, and of being quite expensive. It was Pusey of Chicago who introduced carbon-dioxide snow for the same purposes, and developed an essentially practical method of far reaching application. This method is far less expensive than those that preceded it, and as a plastic snow is the agent employed, which may be moulded into various shapes, the surface of application may be strictly limited and the pressure be varied on account of the solid consistency of the blocks of snow. The fact that the snow has a higher temperature than liquid air is of minor importance. It is acknowledged that this method has been pursued for some years with success in America, and was introduced into Europe by E. Hoffmann.

At the start Pusey and Zeisler of Chicago recommended the employment of this method in the treatment of lupus erythematosus, and many writers soon published favorable accounts of their experience in this affection, some even going as far as to say that they had given up all other methods. Others were more reserved. Different methods of treatment have been proposed, that most frequently advocated being the application of the snow from 10 to 20 seconds. Haslund thinks that the various modifications of the technic have not improved on the simple procedure of Pusey's. Histologically the principal alterations caused by the freezing consist in a pronounced necrosis of the superficial layers of the skin, with partial obliteration of the vessels, followed by an inflammatory reactive process of rapid development.

At the time this article was written carbon-dioxide snow had been employed therapeutically in lupus erythematosus for somewhat more than two years. As the Finsen light had previously given moderately good results, although most often after a pretty long course of treatment and without being able to show a large number of complete cures, the snow was at first applied in a restricted way, combined with light treatment. Later, however, the snow was applied exclusively. Altogether about eighty cases were treated in this way. From the start the advantages of this method were recognized. No case was seen in which the method produced an aggravation of the trouble, as occurs when the Finsen treatment or other methods are employed.

Although the writer thinks that the time has not come to speak of definite results, the immediate action is considered as satisfactory as possible. The cicatrix is as smooth as that produced by the Finsen treatment. Different forms of the affection seem to react differently. The purely hyperemic varieties—those described by Bielt under the name "erythème centrifuge"—offer more difficulty to the production of bullae by the snow, and need stronger pressure than usual. These are the forms that sometimes extend a little in the course of treatment, or produce small new lesions at the edges of those already treated, and in which it is commonly advised to use mild forms of treatment. As the snow is less irritating than most of the older remedies, Haslund employs it in these cases from the start, even when the hyperemic form is present.

On the whole Haslund considers that the treatment of lupus erythematosus by carbon-dioxide snow rivals that by the Finsen method, and one that will prove superior to all others. Its practical advantages are its simplicity, which enables it to be used without much annoyance or loss of time on the patient's part, and its extraordinary efficacy. The cosmetic result is also extremely good. In certain cases in which the results have been most favorable at first, the finishing touches may be hard to produce. Remnants may prove refractory to treatments and demand repeated application of the cold.

For these reasons phototherapy has been for the present abandoned at the Finsen Institute in the treatment of lupus erythematosus in favor of freezing by carbon-dioxide snow. This change of treatment has been based on a comparison of the results attained by the two methods. The patients who have received both methods of treatment have declared themselves impressed with the more favorable results produced by the freezing method. It is only fair to assume, however, that recurrences may take place after the freezing, as well as after other methods, but allowing for this, it represents a distinct advance over the older methods, and should be regarded as the method of choice.

TREATMENT OF CUTANEOUS TUBERCULOSIS AND THE "TUBERCULIDES" BY NEOSALVARSAN.[2]

Tzanck and Pelbois treated 21 patients by this method in Dr. Darier's service at the Hôpital St. Louis in Paris. These experiments were instigated by the fact that before the introduction of neosalvarsan, salvarsan had given interesting results in affections other than syphilis. Among these are included the protozoic affections, malignant tumors, pernicious anemia, chorea, psoriasis, etc. In most of these affections some good results have been attained, although often variable and doubtful. In the treatment of tuberculosis and the tuberculides favorable results have been reported by Herxheimer-Altmann, Bernhardt and Ravant.

The 21 observations, of which the details are given, concerned 9 cases of lupus, 2 of lupous ulcers, 1 of syphiloid tuberculosis, 2 of tuberculous gummata, 3 of suppurative adenitis, 2 of lichen scrofulosorum, 2 of papulo-necrotic tuberculides, 1 of erythema induratum of Bazin, 2 of lupus erythematosus, 1 of Boeck's sarcoid, 1 of Darier-Roussay's sarcoid.

With regard to the Wassermann reaction, the value of which has been recently questioned in some cases of tuberculides, it was found to be constantly negative when syphilis was absent, as well as Noguchi's reaction, which was performed at the same time, in almost all of the cases.

Intravenous injections were employed, in con-

centrated form, according to the technic of Dr. Ravant, without a single serious accident. The effect of the injections on the general health was uniformly good. During the course of the treatment the strength and appetite of the patients increased. While the local results were not constant, and while neosalvarsan cannot be considered as an infallible therapeutic agent in cutaneous tuberculosis, it was often of great value. In the cases of lupus, the results were characterized by a notable diminution of the erythema, a constant softening of the infiltration, and a more or less complete disappearance of the crusts and scales, three factors which make the subjects much more presentable. Furthermore, the patients who were treated by the x-rays and by scarifications showed a far greater improvement when neosalvarsan injections had been employed previously. It is admitted, however, that the injections were not sufficient to cause a complete disappearance of the lupus tissue, or in other words, a complete cure. In the cases of deeper-seated tuberculosis, however, (scrofuloderma) there was sometimes a complete cure.

The results in the cases of tuberculides were questionable and varying. One case of lichen scrofulosorum disappeared after three injections, and the same result was noted in a case of erythema induratum. Two cases of lupus erythematosus were much improved, and a sarcoid was healed.

In conclusion it is asserted that cutaneous tuberculosis and the tuberculides may be greatly ameliorated by injections of neosalvarsan, either alone, or combined with tuberculin (method of Herxheimer-Altmann), but the latter procedure is insufficient, and must be supplemented by other local or general treatment, such as that by light, x-rays, radium, scarification, etc. Neosalvarsan shows its most marked results in the treatment of tubercular adenitis.

SOME CUTANEOUS EFFECTS OF RADIUM AND THE X-RAYS.[8]

In the French Société de Dermatologie et de Syphiligraphie on June 4, 1914, Jeanselme presented a woman who had been burned with sulphuric acid, five years previously. The burns were multiple, but for the most part superficial, and healed in less than two months. The cicatrices, however, were disfiguring, red and keloidal, and radium was employed with the hope of producing a better cosmetic effect. For a year three applications a week were made, taking care to filter the rays. Later, having been admitted to the hospital as an attendant, she began to make the applications herself, observing the rules prescribed for six months, afterward using them without filtering for four months. At the end of that time she developed a dermatitis, which obliged her to stop all treatment, the pain being very severe, for two months. There was found to be a very marked contrast between the islands of tissue subjected to the radium treatment, and the parts not so treated. A large facial cicatrix and one on the wrist had been treated with special energy, and especially by the non-filtered rays. The keloidal appearance had been much improved and had even disappeared over large surfaces. In these places the cicatrix was extremely uniform, and of a pronounced white color, but surrounding it were deeply pigmented areas, of a bistre or sepia color. Here and there was a network of dilated capillaries of a bright red color. A cicatrix in the pectoral region, which had received only a few non-filtrated rays, showed still in part a raised keloid; but the pigmented spots were light in color, and there was only a suggestion of dilated vessels. A cicatrix of the shoulder, that had not been treated by radium, had a decidedly keloidal appearance, although there had been some spontaneous retrogression. There were no pigmentation, nor telangiectasis. In a word, the cicatrices following a sulphuric acid burn had diminished, little by little, without active treatment, while the appearances that had followed a dermatitis produced by radium were most disfiguring.

Replying to a question by Jeanselme as to what could be done to ameliorate these disfigurements caused by radium dermatitis, Pautrier replied that he had had much experience with attempts to improve the pigmented scars and telangiectases caused by the application of x-rays to produce epilation, a procedure that he strongly condemns, since complete epilation by x-rays can never be attained without cutaneous lesions; he has frequently seen late reactions, occurring a year or a year and a half after the applications. For treating these deformities he has tried scarification, electrolysis, and the fine-pointed galvano-cautery. The results were mediocre and slow. Perhaps the best results were from the filiform douche, which must be used with strong pressure.

At the same meeting Jeanselme exhibited another case, that of a woman of 28 years, who had had for six or seven years, enlarged glands in the carotid region, especially on the left side. There were also enlarged glands in the submaxillary, submental and axillary regions. On the left side of the neck there is a large "erectile" surface covered with interlacing telangiectases, with some detached foci at the periphery. The patient asserts that these vascular changes are not congenital, but began to appear six years previously, when she was undergoing treatment by the x-rays for the enlarged glands,—a treatment that was continued through a whole year, with the result that the glands were much diminished in size. The treatment was suspended after a year, however, because of the appearance of a cutaneous erosion, which was followed by superficial scars and by vascular hypertrophy. The first of these telangiectases, which were present in detached "islands," had appeared two months after cessation of the treatment and they had continued to increase.

CHALK PASTES.

Unna[4] refers to the prominence in dermatological therapeutics that has been occupied by chalk, since it was incorporated in Wilkinson's ointment for the cure of scabies. Later, Hebra, Jarisch and others lessened the amount of chalk in this prescription, also used in pruritic eczemas, and other obstinate skin affections, until its importance was rendered negative. In 1884 Unna proposed the addition of chalk to the old mixture of linseed oil and lime water, a household remedy for burns, as improving its consistency. The advantages of this composition are that the weak alkali of the lime water saponifies a small part of the oil, which then holds the rest of the oil in emulsion, and this emulsion on account of its property of mixing with water, allows evaporation from the skin, hence its cooling effect. A further advantage is that cooling basic substances, such as lead water, may be added to it, and the consistence of a paste is attained by the addition of the chalk, or of bicarbonate of soda, or zinc oxide. The following formula was recommended.

Ol. lini.
Aq. calcis āā 20.
Cretae.
Zinci oxydati, āā 30.

This mixture he called Pasta Zinci Mollis, belonging to the group of cooling pastes, which are not only drying, but also cooling. Its indications are weeping eczemas of the genitals and of the head, burns of the second degree, and toxic cutaneous inflammations produced by iodoform, sublimate, chrysarobin, pyrogallol, etc.

Although at first the large amount (30%) of chalk in the Pasta Zinci Mollis was employed solely to increase the consistency, experience soon showed that it had a marked effect in increasing the analgesic properties of the basic reacting lime water. It is noteworthy that the disinclination of all surgeons since the era of Listerism, to employ the linseed oil and lime water liniment in burns has not been able to banish this remedy from popular application, on account of the analgesic action of the lime water combined with the analgesic and slightly reducing effect of the linseed oil. None of these properties are possessed to any extent by modern antiseptics.

A new employment of the chalks has been devised by Unna by combining them with mucilage of gum arabic in the following proportions:

Calcium carbonicum	40
Zincum oxydatum	20
Mucilago gi. arabici	20
Glyzerin	10
Aqua calcis	10

To this may be added a small amount of thymol, or menthol, to keep it. As it hardens on exposure to the air, it should be kept in tubes. This forms a homogeneous paste, which leaves upon drying a firm dry mass upon the skin. It combines the anti-inflammatory and analgesic action of the basic carbonate of calcium with the drying and absorbent properties of the gum pastes. The chief indication for this paste is the rapid drying up of large edematous, erythematous and oozing surfaces. Severe edema of the face, neck, and extremities in the course of chronic eczema is a condition specially suited for the paste, situations which have hitherto been treated by thick layers of meal, talcum, carbonate of magnesia, etc. There is usually speedy improvement in 24 hours, whether the inflammation has a physical causation, such as heat, sun's rays, cold, or has been produced by chemicals, as chrysarobin, pyrogallol, resorcin, etc. A second indication, of great importance, is the chance to dry up all fat salves and fat pastes by covering them with the chalk paste. This is especially valuable in the case of very irritating applications, such as chrysarobin, as it limits the secondary inflammatory action upon the adjacent parts of the skin.

A third indication for the chalk paste is to keep the skin dry about wounds, oozing skin affections, and fistulae. It tends to check the extension of progressive inflammations, the spread of the organisms of pus and of erysipelas, and of toxic, bullous dermatitis. It is valuable especially in the first stages of vesicular and weeping eczemas, until a certain degree of drying has been attained, and in varicose ulcers of the lower leg, complicated with eczema. The pastes are not to be rubbed in hard or for a long time, but simply spread lightly over the skin, when they dry quickly. The paste is to be re-applied in places from which it has come off, from friction of the clothing, from perspiration, or from oozing, and this may be done once or more a day, according to the need.

SKIN DISEASES IN THE AMERICAN NEGRO.

Hazen[5] of Washington, who has had abundant opportunity for observing skin diseases among the colored portion of the community, has summarized his observations, based entirely upon personal observation. Howard Fox has previously written on the subject, his statistics being obtained from the clinics at Johns Hopkins Hospital and from the Central Dispensary in Washington. The cases on which Hazen's paper is based were 2000 in number, and were observed partly in Dr. Gilchrist's clinic at the Johns Hopkins Hospital, partly in the medical clinic at the Children's Hospital in Washington, but chiefly in the dermatological service at the Freedmen's Hospital in Washington. Out of the 2000 cases, 718 were full-blooded negroes, and 543 had much more negro than white blood; the remaining patients were mulattoes, that is the white blood either predominated or was about equal in amount to the negro blood.

It was found that acne vulgaris was about as common among negroes as among whites, con-

trary to the belief of Howard Fox, and that there was little difference in its response to treatment. It is most interesting to note that the milder type of skin cancer is almost unknown among negroes, and the more malignant type is also rare. Also, the so-called precancerous lesions, especially the seborrheic warts, are very rare among the colored, the pigment probably acting as a preventive, as Hyde believed. On the other hand, chloasma, keloid, and vitiligo are, as has been known for a long time, much more common in the negro. Hazen refers to two remarkable cases of vitiligo, in which the loss of pigment developed within 24 hours, there being marked constitutional disturbance at the time. In another case spilling of hydrocyanic acid on the skin seemed to be the exciting cause, as the lesions appeared at the point of contact of the acid.

With regard to the production of x-ray dermatitis, the x-ray operators in Washington agree that the negro skin is much less easily affected than the white. Eczema is less common among the colored, and seems to respond more readily to treatment. When present it is apt to be of the papular and squamous types. Erythema multiforme, furuncle, and impetigo contagiosa are all less frequent in the negro, as well as lichen planus and lupus erythematosus. "Moles" and port wine marks are very uncommon in the negro, and singularly enough the same is true of pediculosis capitis, though pediculi in other situations are equally common in the two races. Hazen and Fox agree that psoriasis is much less common in the negro, but when present runs about the same course as in the white. Hazen, contrary to Fox, considers scabies more common among the colored.

The skin of the negro is naturally very oily and the face is more greasy than that of the average white person, but with regard to seborrhea, we do not often find the yellowish patches on the chest or back, nor the acute forms of so-called seborrheic dermatitis. Yet the dry type is frequenely seen both on the face and body. On the face the lesions are white and scaly, and form rings which are very chronic, often causing temporary loss of pigment when the scales disappear.

Practically all authors agree that syphilis is more prevalent in the negro race, a fact not to be wondered at considering their environment. Yet extragenital chancres are very rare. In ten years Hazen has seen but one, and there has not been a single case in five years at the Freedmen's Hospital. Also macular and maculopapular syphilides are uncommon, which cannot be explained by the color of the skin concealing the eruption, since they are just as rare in mulattoes as in full-blooded negroes. Papular syphilides, on the contrary, are very common, and especially the large papular type, as are also condylomata. Tertiary syphilis is not more common among the negroes, in proportion to the total number of cases of syphilis. Ringworm of the scalp is more common than among the whites, as is also urticaria, both of the ordinary and of the so-called "giant" type. Hazen remarks that in a majority of the cases of urticaria it is possible to get a history of a heavy indulgence in cabbage as the cause of the outbreak. Tuberculosis of the skin in any of its forms is just as common in one race as in the other, which is surprising when one considers how common pulmonary tuberculosis is in the negro.

ECZEMATOID RINGWORM, PARTICULARLY OF THE HANDS AND FEET.

Hartzell[6] relates several instances of the form of ringworm described recently by Sabouraud, as occurring especially between the fingers and toes. The first case was that of a youth of 17, who had an inflammation of the skin of the outer side of the left leg. The inflamed area was about the size of the palm, quite ill-defined at its borders, slightly scaling, and somewhat itchy. It had existed for about a month. Microscopic examination of the scales showed numerous mycelial threads, and the affection rapidly disappeared under the use of a parasiticide ointment. This patient had formerly had an extensive ringworm of the scalp which had lasted until he was 15 or 16 years of age.

The second case, that of a woman of 50, had an obstinate affection of the skin of the plantar surface of the toes of both feet, which consisted in an unusual dryness, with slight fissuring, scaling, and some itching, which had lasted a number of years. It resembled mostly a mild squamous eczema and had been treated by numerous kinds of ointments and lotions, together with the x-rays, without especial improvement. Mycelium in small amount was found under the microscope, and a complete cure was effected by the use of parasiticide ointments.

The third case is that of a man of 24 who had suffered for three or four months with an affection of the skin of the toes of both feet, characterized by redness, scaling, and fissuring in the flexures and between the toes, accompanied by moderate itching. It was slowly spreading backward upon the soles, and had first appeared while the patient was in Panama. Mycelium was found microscopically and a cure was quickly attained by a parasiticide ointment.

The fourth case was that of a youth of 17 who had a chronic inflammation of the sides and palmar surface of the right index and middle finger, with a portion of the palm adjacent. It looked like a mild scaling eczema, for which it had been mistaken, but mycelia were demonstrated in the scrapings. He said that he had had a ringworm of the axilla and thighs the previous summer.

Hebra, more than fifty years ago, described a peculiar form of dermatitis which occurs on the inner surface of the thighs, and on the scrotum, accompanied by itching and scaling, sometimes by oozing and crusting. It had many of the appearances of eczema, and he therefore gave it the name of eczema marginatum, on account of the usually sharply defined border. Later Köbner found mycelial threads, which established its parasitic nature. This affection has long been familiar to dermatologists, who have recognized that it was not a true eczema, although resembling it. Sabouraud has called attention to the frequent occurrence of eczematoid inflammation of the hands and feet, and particularly of the fingers and toes, which he found was caused by the same fungus that causes the eczema marginatum of Hebra. The latter had been universally regarded as an unusually inflammatory form of ringworm, caused by the same organism that causes the ordinary forms, the greater degree of inflammation being due to the heat, moisture and friction due to the situation. Hebra, however, had noticed that when the hairy parts were attacked by eczema marginatum, no changes were produced in the hairs; they retained their color, did not lose their glossy appearance, fall out, nor break off, and no one had ever succeeded in demonstrating the presence of fungus in the hairs. Sabouraud found that these eczema-like forms of ringworm are produced by an organism that differs botanically from all the forms of ringworm, so that it may easily be demonstrated under the microscope. He has called this fungus the epidermophyton inguinale, and shown that it differs from all the ringworm fungi, not only microscopically, but also culturally, and unlike the tricophyton does not invade the hair, but only the upper layer of the epidermis.

Hartzell asserts that this form of parasitic eczema undoubtedly occurs very frequently, as will be found when it is suspected in every case of eczema of the fingers and toes. Sabouraud says that eight out of every ten cases of so-called intertrigo of the toes are actually parasitic, the result of infection with the epidermophyton fungus, and that many of these cases have been preceded by eczema marginatum of the groin or axilla. The affection is more common in the well-to-do classes. Hartzell has found the ointment that was suggested by Whitfield, viz., one containing 3% of salicylic acid and 5% of benzoic acid most effective, but that it must be used with caution in very inflammatory cases, as it sometimes causes much irritation.

REFERENCES.

[1] Annales de Derm. et de Syph., December, 1913.
[2] Annales de Derm. et de Syph., February, 1914.
[3] Bulletin de la Société Française de Derm. et de Syph., June, 1915.
[4] Dermatologische Wochenschrift, October 31, 1914.
[5] Journal of Cutaneous Diseases, October, 1914.
[6] American Journal of the Medical Sciences, January, 1915.

Reports of Societies.

NEW ENGLAND OTOLOGICAL AND LARYNGOLOGICAL SOCIETY.

MEETING OF THIS SOCIETY HELD JANUARY 19, 1915, AT THE BOSTON MEDICAL LIBRARY. The President, DR. GEORGE L. RICHARDS IN THE CHAIR.

A paper was read by DR. GORDON BERRY entitled

LABYRINTHITIS FOLLOWING OPERATION FOR ATRESIA.*

DISCUSSION.

DR. JOHN J. HURLEY emphasized the fact that in this case the atresia was only an incident and had no connection with subsequent events.

He approached the subject with considerable trepidation in view of the fact that such an authority as Dr. Cushing had been consulted in the matter. In the light of the very accurate details presented by Dr. Berry, Dr. Hurley presented the following proposition: That never at any time from start to finish, was this a case of labyrinthitis.

In defense of this proposition Dr. Hurley made the following points:—

1. If it is claimed that this is a case of labyrinthitis which is causing these symptoms, it must be clear that if we eradicate the labyrinth, the symptoms should disappear. But we have eradicated the labyrinth under the most aseptic conditions, and the symptoms not only do not disappear but grow worse. Unless we are ready to meet the first principle of logic, the principle of cause and effect, we must reject the labyrinth as an etiological factor in the case.

2. Dr. Hurley called attention to the fact that not one symptom in this case was traceable to the following cranial nerves: 1st, 2nd, 3rd, 4th, 7th, 11th and 12th.

3. On the contrary, every symptom was traceable to the following cranial nerves: 5th, 6th, 8th, 9th and 10th. Even if the labyrinth had not been ruled out already, there is no labyrinthine condition which could have involved all these nerves. The conclusion is inevitable, that the etiology must be sought for at a point where these nerves are in close proximity, much as one makes a diagnosis of hemorrhage in the internal capsule.

Where are the nerves so converged? At one point only, the cerebello-pontine angle. Dr. Hurley said that the symptoms, viz., nystagmus, vertigo, nausea, vomiting, incoherent speech, delirium and paralysis of the external rectus, all pressure symptoms, could have their origin in pressure at this point only.

4. What could cause pressure at this point? Tumor ruled out by shortness of duration and gumma by negative Wassermann. Cerebellar abscess ruled out by absence of all signs of suppuration, negative temperature, negative spinal fluid, negative blood.

5. Lumbar puncture always relieved symptoms. For a month after operation, cerebrospinal fluid escaped from the wound, which was purposely kept open and during this time there were no symptoms. At the end of the month the wound was allowed to close, thus stopping escape of spinal fluid, and this was immediately followed by return of symptoms in aggravated form.

* See JOURNAL, page 700.

6. On making a lumbar puncture, the fluid was normal in appearance, but escaped under higher pressure than normal.

7. Taking into account the foregoing six points, Dr. Hurley submitted that if it could be demonstrated that a condition of increased pressure of the cerebrospinal fluid could be imagined, which focused the pressure on the 5th, 6th, 8th, 9th, and 10th cranial nerves, the diagnosis in this case would be established.

8. Such a condition does exist, and the train of symptoms arising therefrom is the latest work of Barany of Vienna, and is known as Barany's symptom-complex.

9. Dr. Hurley showed by a sketch on the blackboard that the 5th, 6th, 7th, 8th, 9th, and 10th cranial nerves took origin from the floor of the pons and the lateral cisterna and radiated outward through the cisterna. An adhesion at this point would cause a cyst of the lateral cisterna, and the increased pressure would be demonstrated by focal symptoms on the above nerves, with the exception of the facial (Portio dura) which would not be affected unless the pressure was enormous. The 1st, 2nd, 3rd, 4th, 11th and 12th nerves would not be affected, as they do not run through the lateral cisterna.

10. Dr. Hurley considered the case an inflammatory cyst of the cisterna pontis lateralis, with the following symptoms from pressure: 5th nerve, occipital headache; 6th, paralysis of external rectus; 7th, no symptoms; 8th, tinnitus, disturbance of hearing, nystagmus; 9th, nausea and vomiting, vertigo; 10th, partial paralysis of the tongue, incoherent speech.

11. Prognosis, good.

12. Treatment, medical. The use of drugs, such as atropine and calcium lactate, to cut down the secretion of cerebrospinal fluid. Failing in this, surgical methods to do the same. Lumbar puncture and decompression through the mastoid, elevating the dura on the posterior surface of the petrons portion of the temporal bone, breaking into the cerebrospinal circuit at the acqueductus vestibuli.

DR. D. HAROLD WALKER: I never before heard of a case just like this one. Dr. Hurley's description of Barany's symptom-complex interests me. I thought, when Dr. Berry gave me a memorandum of his case, that it might be one of that kind, one where there are adhesions formed in the cerebellar fossa, causing localized areas, the drainage of which is obstructed, and causing variations in the flow of perilymph through the acqueductus vestibuli.

DR. E. A. CROCKETT: On looking over Dr. Berry's notes on this case, I came to the conclusion that it was a case of cerebellar abscess, and I hope that Dr. Berry will report again on this case a year hence.

I do not believe there ever was a suppurative process in the middle ear. It is, I think, a congenital lesion. I do not think that the labyrinthine operation was necessary. On further considering the Barany symptom-complex and hearing Dr. Hurley's careful analysis, I feel that possibly I would give up my earlier diagnosis of cerebellar abscess.

DR. GEORGE A. LELAND: I had the pleasure of hearing and reading Barany's paper on the development of his symptom complex, which he presented at the International Medical Congress in London a year and a half ago. On hearing Dr. Berry's paper, it struck me that there were many symptoms consonant with Barany's. I do not think we can make a definite diagnosis from the paper as read this evening so much was omitted. There arises the question of tenderness of and behind and below the mastoid, sometimes present, sometimes not; also the combination of vertigo, nystagmus, tinnitus, nausea, disturbance of speech should be noted, whether nystagmus was of long or short duration, and quickly or slowly excited by the caloric test. These symptoms have much to do with the question, especially if they are not constant. Where there is a transient paralysis of the 6th; where there is variation of the symptoms with the amount of pressure of cerebrospinal fluid, that is, diminished by its subsiding; also including such irrational symptoms, smashing things, unaccustomed violence, probably loss of memory for very recent events; things which he would do he does not do, or he does things he knows better than to do and then he forgets he has done them. Perhaps he would complain of headache and then deny it a few hours afterwards. These would point to intracranial pressure which was interpreted by Dr. Cushing as internal hydrocephalus, or serous meningitis. This intracranial pressure, as I look upon it, may also be caused by a dilated cisterna, as Barany has shown, though he did not mention such a transient change of disposition in any of his cases, as I remember at the moment.

DR. F. P. EMERSON: I quite agree with Dr. Crockett that the evidence all points to an atresia of the canal that was of congenital origin. In a differential diagnosis of the form of labyrinthitis present, it would seem as though we could exclude every form except that of a serous diffuse labyrinthitis. The fact that the vestibular reaction was still present would exclude the diffuse manifest or latent forms of purulent labyrinthitis. Some cases have been reported in which during the granulating stage following a radical operation a fistula was formed. This might account for a serous labyrinthitis, as it did not apparently come on during the first three days following operative interference, as we would expect. I am inclined to believe that there was a serous meningitis present, but whether it was secondary to a focus in the labyrinth or cerebellum, I do not think we can tell. Dr. Berry is entitled to a great deal of credit for reporting such an obscure and interesting case.

Book Reviews.

Evolution of Sex in Plants. By JOHN MERLE COULTER. Chicago: University of Chicago Press. 1914.

This monograph from the department of botany of the University of Chicago presents a valuable microscopic study of the evolution of sex in the vegetable kingdom. The author considers that the significance of sex differentiation lies in the fact that it makes organic evolution more rapid and more varied. The book is illustrated with forty-six figures in the text and forms a valuable contribution to the philosophy of evolution.

THE BOSTON
Medical and Surgical Journal

An independently owned Journal of Medicine and Surgery, published weekly, under the direction of the Editors and an Advisory Committee, by the BOSTON MEDICAL AND SURGICAL JOURNAL SOCIETY, INC.

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CONSTRUCTION OF LOCAL TUBERCULOSIS HOSPITALS.

THE attention of the medical profession of Massachusetts is called to House Bill 2088, a petition introduced by Representative George M. Worrall of Attleboro, which asks for a year and a half extension of time within which cities and towns shall construct tuberculosis hospitals. This was introduced under suspension of the rules and referred to the Committee on Public Health.

In 1911 the so-called Tuberculosis Hospital law was passed after long and grave consideration of the tuberculosis situation in this state. This law is to the effect that every city shall construct and maintain a local tuberculosis hospital for the care of advanced conumptives within its midst. At the request of the State Department of Health towns also may be included within this law. This law is an eminently wise and sane one. At the present time, out of thirty-five cities in Massachusetts, sixteen have complied with it. In addition to these there are two town hospitals, Clinton and Westfield, and one county hospital, the Hampshire County Sanatorium. The present Legislature has made an appropriation to build another county hospital, in Barnstable.

The bill under consideration has the strong backing, as is naturally to be expected, of senators and representatives coming from districts in which there is no local tuberculosis hospital and which wish to evade spending the money to provide one. The State Department of Health has given to such cities until September 1st of this year to comply with the law. At the end of this period the matter will be put in the hands of the Attorney-general to see that it is properly enforced. The present bill nullifies this act of the State Department of Health and allows an extension of time until January, 1917. This is a distinct injustice to those cities and towns,—Boston, Cambridge, Chicopee, Clinton, Fall River, Fitchburg, Haverhill, Holyoke, Lawrence, Lynn, New Bedford, Pittsfield, Somerville, Springfield, Salem, Westfield, Waltham, and Worcester,—that have complied with this law. It continues for two years more the handicap under which our state sanatoria are now laboring, namely, that our beds are kept filled with patients in the advanced and dying stages of the disease, who, in justice to themselves and their friends, should be cared for in local hospitals near their friends and relatives, while in addition it prevents the state from caring promptly for those patients, for whom our sanatoria are primarily intended, in the incipient and favorable stages of the disease.

Furthermore, this law, if passed, will extend for a year and a half the time in which cities and towns of 10,000 inhabitants and over must equip and maintain a local tuberculosis dispensary. The act requiring such dispensaries was passed in 1911, at the same time the one requiring tuberculosis hospitals was enacted. The State Department of Health has given cities and towns coming under the provisions of this act until July 1st of this year to comply with it. The establishment throughout the state of such dispensaries as this will be one of the greatest steps in advance in controlling and eradicating tuberculosis from our midst. This law, if passed, will delay this good work over eighteen months.

If passed, this law will constitute a distinct backward step in health matters in Massachusetts. Every physician is urged to see his representative and to use all the influence he has to oppose the passage of this act.

HEALTH CONDITIONS IN PANAMA.

The penalty the Caucasian has to pay for attempts to conquer lands with unsuitable climatic conditions is exemplified in the Canal Zone, as shown by the recent reports of Lieut. Colonel Charles F. Mason, chief health officer.

In his annual report, covering 1914, he shows that among the negroes the hospital record was 191.93 per thousand, while among the whites it was 523.63, or nearly three times as much. Also the number of laborers constantly non-effective among the whites was 23.20 per thousand, while among the blacks this was only 10.16, or less than half. The latest report from that region, that for February, 1915, gives substantially the same figures, the non-effective rate for whites being 22.55 and that for blacks 8.58 per thousand.

A consolation which it offers, however, is the comparison of the death rate per thousand. During 1914 this was 3.13 for the whites and 4.63 for the blacks, which would seem to show that although the sick record for the Caucasian transported to an alien climate may be twice as high as that of the native population, his vitality is also greater. The above discrepancy may be also explained by the fact that the non-effective list is largely made up of those placed *hors de combat* by malaria, for which the death rate is relatively low.

General health conditions in Panama and the Canal Zone appear to be improving, as evidenced by the diminution from month to month of the number of cases admitted to hospitals. For example, in February this was 294.17 per thousand, as opposed to 332.87 in January and 437.70 in December. This decrease is undoubtedly due to the education of the native population in prophylactic measures by Dr. Mason and his assistants. Throughout the Canal Zone the school children in the higher grades are being taught the rôle of the mosquito in the transmission of disease. During 1914 all the school children in Panama, Colon and the Canal Zone were vaccinated, with "takes" varying from 60% to 80%.

Among other measures looking to the conservation of the public health might be mentioned the institution of an annual physical examination of all gold employees in this region. Also it has been made compulsory for laborers employed by the government to take quinine for at least a month after an attack of malaria.

The incidence of this latter disease shows a steady decrease and it is also gratifying to note that the death rate for malaria was reduced more than 50% in 1914.

The death rate per thousand in Panama City for 1914 was high, 32.85, but this is understandable when we observe that half the deaths were of children under five years and due largely to gastro-intestinal disorders, the results of maternal ignorance.

Dr. Mason comments on the little known clinical fact that the negro race is much more susceptible to primary pneumococcic infection of the sinuses and the middle ear than the white, also upon the prevalence in this race of obliterative syphilitic endarteritis, especially in the West Indian negro laborers. He remarks that there seems to be widespread luetic infection among this class of employees.

MILK LEGISLATION IN MASSACHUSETTS.

In the issues of the Journal for February 25 and March 25 we commented editorially on the labor clean milk bill, then and now still pending before the Massachusetts General Court. This bill has recently passed the Senate and had been ordered to a third reading in the House. Unfortunately, however, at this juncture, as a result of the determined and persistent opposition of the Massachusetts State Grange, a substitute measure was introduced giving power to the department of animal industry, to control all milk inspection by the State Health Commissioner. The text of this pernicious substitute is as follows:—

"The state department of health and boards of health in cities and towns shall have authority to prohibit the shipment, sale or delivery of milk, skim milk or cream under conditions which, in their judgment, are detrimental to public health. In case they decide that milk, skim milk or cream from any dairy is produced under such conditions, they shall give written notice of their finding to the producer thereof and also to the department of animal industry, and the sale, shipment and delivery of all such milk, skim milk, or cream shall thereupon cease, and it shall be the duty of the department of animal industry to inspect the dairy and to require such changes and improvements as to the circumstances under which the milk, skim milk or cream is produced as shall be approved by the state department of health or by the local board of health making the complaint.

"It shall be unlawful for any person to ship, sell or deliver milk produced in any dairy to which the above notice has been given by the state department of health or by any local board of health until a certificate has been filed by the department of animal industry with the state department of health or local board of health, as the case may be, stating that such improvements have been made as were required by the department of health or by the local board of health, as the case may be, and as will make the production of milk in the said dairy safe and sanitary.

"Whoever ships, sells or delivers milk, skim milk, or cream in violation of the provisions of this act, shall be punished by a fine of $100 for each offence."

The purpose of this substitute measure was obvious, to place in the hands of the bureau of animal industry the essential control of the milk producing industry in this state. Such a measure would absolutely thwart the purpose of the proposed milk legislation for which so vigorous a conflict has been made for a number of years and which, at last, seems on the verge of successful enactment.

Fortunately, on May 3, this new substitute measure met with the unqualified defeat which it deserved, and the labor clean milk bill was ordered to be engrossed by a vote of 149 to 68.

On May 6 the bill, having been returned to the Senate, was by that body amended with a clause exempting railroads and other common carriers from the provisions of the act. With this amendment it is again before the House for final consideration. It is earnestly to be hoped that the ultimate passage of this bill and its approval by the governor may at last establish reliable and adequate methods of milk inspection and control in Massachusetts.

OUT-PATIENT CLINICS FOR MENTAL DISEASE.

THE recently published bulletin (No. 8) of the Massachusetts State Board of Insanity for April, 1915, contains a striking statement of the number of persons who, during the first quarter of this year attended the new out-patient clinics which are being established throughout this state in connection with the various hospitals for the insane. During this period the total number of patients visiting this clinic at the Worcester State Hospital was 106, at the Taunton State Hospital, 99; at the Northampton State Hospital, 78; at the Danvers State Hospital, 91; at the Westborough State Hospital, 7; at the Psychopathic Department of the Boston State Hospital, 1054; at the Gardner State Hospital, 9; at the Monson State Hospital, 12; and at the Massachusetts School for Feebleminded, 120; making a total of 1576 patients who availed themselves of this valuable opportunity for examination, observation, advice and treatment. The clinics were held on stated days, sometimes at the several hospitals, sometimes on circuit in the larger neighboring cities. The establishment and successful operation of these clinics as evidenced by the above data is not only a valuable service in the prophylaxis of mental disease and the interests of public health, but is of significance as indicating so strikingly the progressive change in popular attitude towards chronic disease of this type from that which formerly prevailed.

THE HEART MUSCLE IN PNEUMONIA.

PRELIMINARY announcement is made from the physiologic laboratory of the Harvard Medical School of an important piece of research on the heart muscle in pneumonia by Dr. L. H. Newburgh and Dr. W. T. Porter, as follows:—

"When a cannula is tied into the descendens or the circumflex branch of the left coronary artery of the dog, and the part of the ventricle nourished by the artery is cut out, the piece of ventricle will beat for hours if supplied with warm defibrinated blood under moderate pressure.

1. In our experiments the left ventricle from 10 normal dogs, perfused with normal blood, contracted an average of 181 minutes. The

area covered by the ten contraction curves (a measure of the work done by the ventricular segment) weighed 8.84 grams, an average of 0.88 grams.

2. Exactly similar preparations from 10 dogs that *had died* of pneumonia contracted an average of 200 minutes and their contraction areas weighed 8.50 grams, an average of 0.85 grams. These ventricles were perfused with normal blood.

It is evident that the heart muscle is not impaired in pneumonia.

3. Similar preparations from 10 normal dogs, in which the ventricular muscle was fed with blood from 10 dogs near death from pneumonia, contracted an average of 70 minutes, and their contraction areas weighed 3.40 grams, an average of 0.34 grams.

This demonstrates that pneumonia blood lowers the contractility of the heart muscle, though the ventricle is ready to beat normally as soon as its food is normal.

4. Seven ventricles from dogs about to die from pneumonia were perfused with pneumonic blood from the same pneumonic dogs. These ventricles beat an average of 185 minutes and the contraction areas weighed an average of 0.69 grams.

This demonstrates that the heart in pneumonia largely adjusts itself to its poisoned food supply.

L. H. NEWBURGH, M.D.,
W. T. PORTER, M.D."

MEDICAL NOTES.

AWARD OF JACKSONIAN AND TOMES PRIZES.—It is announced that the Royal College of Surgeons of England has awarded its Jacksonian prize to Mr. Jonathan Hutchinson for his essay on the pathology, diagnosis and treatment of trigeminal neuralgia, and the John Tomes prize to Mr. J. F. Colyer for his work on comparative dental anatomy and pathology.

TYPHUS FEVER AT NEW YORK.—Report from New York states that on May 1, a case of typhus fever was discovered aboard the Greek steamer *Christoforos* which arrived in New York Harbor that day from Marseilles. The patient, a Greek, has been isolated and the vessel has proceeded to its destination at Baltimore. The case had been discovered on board ship on April 20 and had been isolated since that time. It is stated that following the second Balkan War twenty cases of typhus fever, similarly originating in Marseilles, were thus brought to the port of New York and were all safely detained at quarantine. On May 4, a second case of typhus was found on board the Cunard liner *Carpathian* sailing from Naples, Genoa and Piraeus. The patient was removed to the Swinburne Island Hospital for treatment. The steerage of the ship will be fumigated.

REPORT OF THE BOARD OF HEALTH OF THE TOWN OF MONTCLAIR, N. J.—The recently issued report of the board of health of the town of Montclair, covering the period from Jan. 1, 1914 to December 31, 1914, shows that the death rate for the year was the lowest in the history of the town, being 9.37 per 1,000 inhabitants. The birth rate, 18.8 per 1,000 inhabitants, is the lowest recorded for the town although it is the same rate as for the previous year. The marriage rate was 7.1 per 1,000 inhabitants.

RED CROSS SURGEONS SAIL FOR EUROPE.—On May 1 a number of American surgeons sailed for various parts of Europe for service in the Red Cross. Dr. Dunlap Pearce Penhallow of Boston, a major in the medical corps of the Massachusetts volunteer militia, has been granted six months' leave of absence and expects to be stationed in a hospital in France. Dr. Herbert H. Howard, whose appointment as staff physician in the Women's Relief Hospital at Paignton, England, has been noted in a previous issue of the JOURNAL, sailed in the same party.

Two surgeons are assigned to Serbia, Dr. Shadworth O. Beasley of San Francisco, graduate of Cooper Medical School and lately of the medical department of Leland Stanford, Jr., University and Dr. W. A. Jolley of Boulder, Col., graduate of Jefferson Medical College.

Dr. Walpole Brewer, of Tuskegee, Ala., graduate of Vanderbilt University Medical Department, has been assigned to Vienna.

On the steamship *Rotterdam*, bound for Rotterdam, were Dr. R. H. Crawford and four nurses, who are going to Germany.

Dr. Alden R. Hoover, head of the American Board Mission Hospital at Cesarea has been recalled from a furlough in this country, to begin relief work against typhus among the Turks. He expects to be engaged with the Turkish Army. The American Board Mission Hospital at Cesarea is a well equipped institution with eighty beds and had about 1,000 patients last year.

AFFILIATION OF COLUMBIA UNIVERSITY AND PRESBYTERIAN HOSPITAL.—Report from New York on May 4 states that plans are announced for a new medical school to be erected jointly by Columbia University and the Presbyterian Hospital, on the former site of the American League baseball grounds on the upper West Side, at an expense of $10,000,000. Columbia will contribute $7,500,000 to the project, it is

stated, and five years has been fixed as the limit of the period for raising the total sum. The Presbyterian Hospital purposes to erect a large hospital building, into which it will move from Madison avenue and Seventieth street. The College of Physicians and Surgeons will move to the new site from its buildings at Fifty-ninth street and Amsterdam avenue. The ability to raise the fund necessary for the purpose is the only undecided part of the plan.

HEALTH OF NEW YORK CITY BETTER THAN LAST YEAR.—The number of deaths reported last week from all causes was 1638, with a death rate of 14.72 per one thousand of the population, as against 1593 deaths and a rate of 14.89 during the corresponding week of 1914. There were 154 deaths reported from lobar pneumonia as against 119, 142 deaths from broncho-pneumonia as against 103, and 207 deaths from pulmonary tuberculosis as against 188. Chronic organic heart and kidney diseases showed a slight increase in mortality.

Viewed from the point of age grouping, the mortality among infants under 5 years of age was considerably increased, due to an increase in the number of deaths from measles and from broncho-pneumonia, while the mortality of the old was considerably below that of the corresponding week of 1914.

The death rate for the first eighteen weeks of 1915 was 14.72 per one thousand of the population as against a rate of 15.63 during the corresponding period of 1914, a decrease of .91 of a point.

SEVENTH PAN-AMERICAN MEDICAL CONGRESS.—In the issue of the JOURNAL for April 8 we commented editorially on the coming seventh Pan-American Congress of Medicine, which is to meet at San Francisco during the week of June 17 to 21 inclusive, and on its convenient relation to the annual meeting of the American Medical Association the following week. In last week's issue of the JOURNAL we also noted the official plans for excursions from various points to San Francisco for the meeting of the American Medical Association. The transportation committee of the Pan-American Congress has also arranged a series of railroad excursions, particularly two special trains which will leave New York, one on Friday, June 11, for the Pan-American Medical Congress and one on Wednesday, June 16, for the meeting of the American Medical Association. These excursions are specially recommended to physicians who desire to attend one or both of these important medical meetings. For additional information and bookings, application may be made to Dr. H. L. E. Johnson, 1821 Jefferson Place, N.W., Washington, D. C.

DEDICATION OF THE BRADY INSTITUTE.—The new Brady Urological Institute, which was established and endowed at the Johns Hopkins Hospital by Mr. James Buchanan Brady of New York City, was formally dedicated with appropriate exercises on May 4. Addresses were made by Mr. Brady, by Dr. Hugh H. Young, by Dr. Simon Flexner and by Dr. Edward L. Keyes of New York City. The Institute was established and equipped at a cost of over $250,000.

DR. STRONG IN SERBIA.—Report from Washington on April 30 states that Dr. Richard P. Strong, head of the American Red Cross Commission sent to Serbia to check the epidemic of typhus, having arrived at Serbia and studied its conditions, reports that he believes it possible to control the epidemic in a short time if proper facilities are furnished. He asks that at least 175 more physicians, medical inspectors and fourth-year students be sent, and states that there is a great lack of hospital supplies of all kinds. The report further states that an international board of health has been established at Nish, with Prince Alexander of Serbia as president and Sir Ralph Paget of England as vice-president. It consists of the heads of Serbian, French and English sanitary commissions and representatives of the Serbian military and civil medical departments. It is intended to make Surgeon-General Gorgas director of this board, should he acept the offer of the Rockefeller Foundation to become a member of its force in Serbia. The remainder of the American commission, which numbered ten sanitarians and bacteriologists, have reached Salonica, Greece, and will join Dr. Strong at Nish shortly. They sailed from New York, April 4.

EUGENIC LEGISLATION A MISNOMER.—In the latest issue of the *Journal of Heredity*, Dr. W. C. Rucker, assistant surgeon-general of the United States Public Health Service and secretary of the American Genetic Association, has called timely attention to the difference between the principles of eugenics and so-called eugenic laws which have been advocated in many of our legislatures. He states that many of them do not deal with eugenics, but preventive medicine, as, for instance, those requiring a health certificate before marriage, and further says that, "Neither the science of eugenics nor public sentiment is ready for legislation putting further restrictions on marriage, so far as those restrictions are strictly eugenic rather than hygienic in intent."

REPORT OF BELGIAN RELIEF WORK.—Report states that the Commission for Relief in Belgium has sent to Rotterdam, for further distribution up to April 3, food and clothing to the value of $49,174,519. The amount of food supplies necessary to keep the Belgian population alive is constantly increasing. The amount required for the present month is as follows: wheat, or its equivalent, 60,000 tons; rice, 10,000 tons; peas and beans, 5000 tons; bacon and lard, 1200 tons; preserved meat, 1200 tons; preserved fish, 1200 tons; condensed milk, 300 tons.

REPORT OF THE ROCKEFELLER FOUNDATION ON CONDITIONS IN SERBIA.—A report of conditions in Serbia made for the Rockefeller Foundation, which led to the appointment of Dr. Richard P. Strong of the Harvard Medical School as leader of a corps of physicians and sanitary engineers to begin relief work in that unfortunate country, states that on March 10 probably from 25,000 to 30,000 persons were suffering from typhus, and this, with other epidemics, was sweeping the nation. Cholera was expected with the advent of the warm weather and no preparations had been made to suppress it. Probably 300,000 persons were destitute. Exhausted by three successive wars, the country has nothing to give away to its own unfortunates. The Serbian peasant in normal times is isolated and self-sustaining. The country is economically and socially unevolved and unorganized to a degree unknown in America. The one railroad through the country is mainly occupied for military purposes and other roads are out of repair and almost impassable. The normal population of Nish, the temporary capital, has been increased from 25,000 to 80,000, due chiefly to the influx of refugees. School buildings and churches are crowded with the sick and dying. The report further states:—

"The conditions which have been described as existing at Nish (where the government is fully cognizant of the situation and where the members of the government themselves are not only in danger, but are undoubtedly aware of their danger) call for emergency measures, and indicate that it would be vain to try now to do anything beyond controlling the epidemic."

EUROPEAN WAR NOTES.—On May 3 Dr. Clapham King of the American Red Cross reached New York aboard the steamship *Patria*, on which he has returned with thirteen nurses from a tour of hospital duty in Serbia and France. All were members of the original units sent at the outbreak of the war. Eight of the twelve nurses and five of the six physicians constituting these units became infected with typhus fever, and two of the surgeons, Drs. Donnelly and Magruder, died of the disease. Dr. King and his companions have returned to this country for convalescence. The remaining four nurses and one surgeon have been removed from Gievgelia, Serbia, to Belgrade.

On April 26 it was reported from London that the Prince of Wales National Relief Fund reached a total of £5,000,000. The sums raised in the several states of this country for the St. George's Relief Fund are as follows:—

Massachusetts	$9,480.44
Pennsylvania	4,830.41
New Jersey	4,032.10
Connecticut	3,800.00
New York	3,173.57
Illinois	3,139.89
Pacific coast	2,146.92
Michigan	1,503.85
Ohio	1,286.87
Rhode Island	1,150.45

On May 8 the totals of the principal American relief funds for the European War reached the following amounts:—

	N. Y.	N. E.
Belgian Fund	$1,029,913.23	$255,620.83
American Ambulance	387.467.89	
Committee of Mercy	153,375.26	
Red Cross Fund		133,440.13
Prince of Wales	119,649.23	
Jewish Fund		61,572.22
Serbian Fund	52,137.31	26,968.25
Polish Fund		45,242.39
British Imperial		26,373.78
Belgian Red Cross		13,721.00

NEW YORK STATE HOSPITAL FOR THE CARE OF CRIPPLED AND DEFORMED CHILDREN.—The recently published report of the New York State Hospital for the Care of Crippled and Deformed Children for the year ending Sept. 30, 1914, shows that a total of 107 patients have been treated during the year; 22 were admitted with hip-joint disease, 18 with Pott's disease and 35 for various forms of infantile paralysis and its deformities. Thirty-two patients were discharged during the year, leaving 75 under treatment, 47.66% having tuberculous disease. Of the number discharged, 14 were cured and 18 improved.

DECLINE IN THE BRITISH BIRTH RATE.—In previous issues of the JOURNAL we have commented from time to time on the rapidly declining birth rate of France, and the slowly declining birth rate in Germany. A recent item in the *Manchester Guardian* calls attention to the decreasing birth rate of Great Britain and the serious effect upon it which may be expected from the present European War. Recently published statistics show that in 1913 the excess of births over deaths in Britain was 450,000, whereas in 1914 it was 438,000. From the latter figure, however, should be subtracted the 268,000 British emigrants who left the islands during that year, so that the total increase of population was only 170,000. It is obvious that the figures for 1915 will be seriously affected by the losses of the war. Indeed, it would appear that both in France and in Britain a rapid acceleration of the decline in population must ensue unless some unexpected form of racial regeneration should arise.

BOSTON AND NEW ENGLAND.

INDUSTRIAL ACCIDENT BOARD.—Walter P. Bowers, M.D., of Clinton, formerly president of the Massachusetts Medical Society, has been named as a member of the advisory committee

of the Massachusetts Industrial Accident Board. The membership of that committee is as follows: Dr. Frederic J. Cotton, Boston; Dr. F. W. Anthony, Haverhill; Dr. Samuel Fletcher, Chicopee; Dr. Samuel H. Calderwood, Roxbury; Dr. Francis D. Donoghue, Boston; Dr. Frank E. Allard, Boston, Dr. Wm. H. Ruddick, South Boston; Dr. Walter P. Bowers, Clinton. Since the committee was originally formed, Dr. Francis D. Donoghue has been selected by the board as its medical advisor, and is now serving in that capacity under salary.

Report of the Worcester City Hospital.—The forty-fourth annual report of the trustees of the Worcester City Hospital publishes in thorough statistical arrangement the record of the work of that institution for the year ended Nov. 30, 1914.

"Five thousand, six hundred and fifteen (5615) bed patients were given 97,475 days' treatment at an expense of $158,005.82.

"Twenty-nine thousand, five hundred and forty-two (29,542) treatments were given in the out-patient department at an expense of $8,579.60, or $.29 per treatment.

"One thousand and seven (1007) were treated in the accident room at an expense of $1,732.98, or $1.721 per patient.

"There was a total of 97,475 days' treatment in the hospital proper, 29,542 treatments in the out-patient department and 1007 treatments in the accident room at a total expenditure of $170,820.40.

"The average expenditure for each bed occupied continuously throughout the year was $591.67, as against $577.89 in 1913. This does not include the expenses of the out-patient department, or of the accident room, nor does it include interest on investment or depreciation of plant."

Boston Vital Statistics.—The recently published report of the Boston Registry Department for the year 1914 shows that during the past year the births exceeded the deaths in this city by nearly 75%. The number of births recorded was 19,672, the number of deaths was 11,830, exclusive of 786 citizens of Boston who died in other cities. There were 8527 marriages of residents and 1687 of non-residents.

Collection of Gunshot Wounds for the Warren Museum.—It is announced that Dr. Du Bouchet, surgeon-in-chief of the American Ambulance Hospital in Paris, has offered to present to the Warren Museum at the Havard Medical School a collection of specimens obtained from operations and autopsies at the hospital during the war, illustrating the effect of modern projectiles on the tissues of the body. This collection, representing a wide variety of modern gunshot wounds, is expected to be the most complete in this country, with the exception of that of the National Museum in Washington. In a recent letter from the American Ambulance Hospital, where he is at present serving with the Harvard Unit, Dr. Robert B. Greenough of Boston writes as follows of the character of the wounds there observed:—

"We are treating chiefly perforating gunshot wounds with compound fractures. Most of the wounds are infected when the bullet enters. The soil of the trenches is filled with all kinds of pathogenic organisms, including gas bacilli of several different strains. It is rare for any wound to heal by first intention. On the other hand, very severe infections are not numerous, and we have only three or four cases seriously ill today."

Report of the Milk and Baby Hygiene Association.—The recently published report of the Milk and Baby Hygiene Association of Boston gives the following statistics: number of stations, 12; number of nurses, 14; number of well-baby clinics held, 665; attendance at clinics, 19,578; total number of babies cared for, 4097; number of deaths, 83; breast fed babies, 2249; partly breast fed, 818; artificially fed, 1030; visits made in the homes by the nurses, 50,275; average attendance at clinics, 29. The association has no endowment and is dependent upon voluntary contributions. In 1914 the work cost $23,218 and during the present year $30,000 will be required. That the work of this association is important and far-reaching cannot be questioned. It is to be hoped that funds will be forthcoming this present year to meet the expectations of the members of this worthy organization.

Drug Users in Insane Hospitals.—One of the inevitable results of the enactment of the Federal drug law has been in the crowding of hospitals with patients addicted to the use of drugs who, no longer able to obtain a supply of them, become mentally deranged and are committed to our state institutions. At Tewksbury there is an unusually large number of patients in whom deferred mental diseases developed when they were forced to give up the use of narcotics. The Norfolk State Hospital has a long waiting list of drug users. It is reported that proposals have been put forward for the establishment of a branch hospital at Springfield to take care of this increase. Many of the patients are anxious to escape from the dangers of their condition, but the majority are too firmly fixed in the habit to care for anything but its continuance. Report from Illinois states that since the enforcement of the drug law in that state went into effect, more than three hundred persons have been sent to insane hospitals, because they cannot get the drug they crave.

Measles in Waltham.—Report from Waltham, Mass., on May 1, states that twenty-four cases of measles have recently been reported in

that city. Careful examination will be made of all pupils returning to school after vacation, to prevent a spread of the epidemic.

Hospital Bequests.—The will of the late Miss Helen Collamore of Boston, who died in this city on April 17, was filed in the Suffolk probate office on April 28. It contains numerous charitable bequests, including one of $200,000 to the Massachusetts Homeopathic Hospital for the erection of a new building, to be known as the Collamore Building. A further sum of $30,000 is also given to this hospital for the maintenance of three perpetual free beds. Bequests of $5,000 each are made to the Children's Hospital, Boston Instructive District Nursing Association, to the Perkins Institution for the Blind, to the Industrial School for Crippled and Deformed Children, and to the Trustees of Boston University for the benefit of the Homeopathic School of Medicine of that university. The Massachusetts Homeopathic Hospital is also named as one of five residuary legatees.

First Conference of Massachusetts Boards of Health.—The first conference between the Massachusetts Association of Boards of Health and the State Department of Health was held in Boston on April 29. Seventy-five cities and towns of Massachusetts were represented. The speakers at the forenoon conference were Governor Walsh, Commissioner Allan J. McLaughlin, Dr. Charles W. Eliot, Professor Irving Fisher, Miss Ella P. Crandall, executive secretary of the National Organization of Public Health Nursing, and Professor William T. Sedgwick, president of the American Public Health Association.

Dr. McLaughlin spoke particularly of the desirability of better organization for health education, saying in part:—

"I believe that the time has arrived for a state-wide organization of all those interested in public health education. I believe that such an organization should include all health officers and every agency engaged in public health nursing or social service, or the teaching of hygiene in this Commonwealth. Organization is necessary to secure coöperation, to prevent duplication, and to get the full value of the efforts made, and the money expended for public health education."

The speakers of the afternoon, and their subjects, were: "The Control of Communicable Diseases," Dr. Eugene R. Kelley, State Department of Health; "The Relationship Between the State and Local Boards of Health," Dr. Lyman A. Jones, district health officer, Berkshire district; "The Health of the Farmer," Dr. John S. Hitchcock, district health officer, Connecticut Valley district; "The Vacation Health Problem," Dr. Adam S. MacKnight, district health officer, southeastern district; "The Continuing Problem of Vaccination," Dr. Samuel H. Durgin, former chairman of the Boston Board of Health; "The Control of Cancer," Dr. Edward Reynolds, vice-president American Society for the Control of Cancer; "Some Problems of the Health Officer of a Small City," Dr. Francis G. Curtis, health officer, Newton; "Infant Mortality from the Standpoint of the State," Dr. William Hall Coon, district health officer, northeastern district.

Dr. Durgin, in his address on the continuing problem of vaccination, stated that the annual request made to the legislature to repeal the vaccination laws is made by a few citizens of the Commonwealth whose sincerity is unquestioned, but whose arguments, that vaccination produces other diseases in the person vaccinated, should be met with more scientific evidence. He, therefore, presented for the consideration of the association a resolution to this effect, which was adopted:—

"*Resolved*, That in the opinion of the Massachusetts Boards of Health, legislation should be secured by which all cases of supposed illness or injury caused by vaccination shall be forthwith reported to the state department and immediately investigated and recorded, and continued for a sufficient length of time to secure facts proving the truth or falsity of the charges."

Dr. Creel as Boston Health Commissioner.—It was announced on May 3 that Dr. Richard H. Creel, of the United States Public Health Service, has accepted the offer of an appointment as health commissioner of the city of Boston and has received an indefinite leave of absence from Washington for this purpose. This appointment was made in accordance with the recent action of the Boston City Council, abolishing the present board of health and substituting therefor a health commissioner and a board of deputy commissioners. This reorganization was discussed editorially in the issue of the Journal for Feb. 11. Probably an important element in determining Dr. Creel's decision to accept this post and the willingness of the Public Health Service that he should do so is the recent transfer of the Boston Quarantine Service from local to federal control. This transfer will officially take place on June 1 and on the same date Dr. Creel will come to Boston to assume his new duties. One of the first and most important of these will be the appointment of the deputy commissioners to have charge of the seven new divisions of the department. The ordinance passed by the city council provides that:—

"In appointing a deputy commissioner the health commissioner shall certify under oath that he is a person of recognized standing in his profession or occupation; that in the commissioner's opinion he is an expert in the work which will devolve upon him; that he is a person especially fitted by education, training or experience to perform the duties of the office, and

that the appointment is made solely in the interests of the city, such certificate to be filed with the city clerk and to be open for public inspection. The salaries of the deputy commissioners shall be fixed by the health commissioner, subject to the approval of the mayor."

Dr. Creel's acceptance of this important post is a matter for congratulation to the city of Boston, since his reputation in the public health service and the character of the work in which he has recently been engaged at New Orleans amply justify his reputation as an expert in matters of public health. From him is to be expected an efficient and constructive administration of the functions of the department of health, in a large city and seaport, without political fear or favor.

MASSACHUSETTS DENTAL SOCIETY.—The fifty-first annual meeting of the Massachusetts Dental Society was held in Boston on May 5, 6, and 7, under the presidency of Dr. Henry H. Piper of Somerville, who delivered his annual address at the afternoon session on May 5, followed by Dr. Eugene H. Smith. At the evening session on May 5 there was an address by Dr. Howard R. Raper of Indianapolis on "The Influence of Radiography on Dentistry." At the afternoon session on May 6, there were papers by Dr. William R. Pond of Rutland, Vt., and by Dr. Arthur H. Merritt of New York City; and at the evening session by Dr. Charles F. Painter of Boston, who spoke on "The Co-Relation of Advancement in Dental and Medical Education in Their Relation to the Public," and by Dr. Charles F. Ash of New York City. The morning session of May 7 was held at the Harvard Dental School, and at the final session that afternoon there was an address by Dr. Henry W. Gillett of New York City, followed by the installation of the following new officers:—

President, Dr. Charles M. Proctor, Boston; first vice-president, Dr. Frank T. Taylor, Boston; second vice-president, Dr. H. H. Cleaveland, Springfield; secretary, Dr. A. H. St. C. Chase, Boston; assistant secretary, Dr. Albert W. Day, Worcester; treasurer, Dr. Joseph T. Paul, Boston; editor, Dr. C. Edson Abbott, Franklin.

Massachusetts Medical Society.

ANNUAL MEETING.

THE annual meeting of the Massachusetts Medical Society, in observance of its 134th anniversary, will be held in Boston on Tuesday and Wednesday, June 8 and 9, 1915. All the exercises of the anniversary will be held at the Copley-Plaza Hotel, Copley Square, except the combined meeting of the sections on surgery on Wednesday afternoon, which will be held at the Boston City Hospital.

A Bureau of General Information will be maintained by the committee of arrangements during Tuesday and Wednesday in the lobby of the Copley-Plaza Hotel, the headquarters of the society during the annual meeting.

The Annual Dinner and all General and Section Meetings (with the exception of the combined meeting of the Sections of Medicine and Surgery on Wednesday afternoon) will be held as in 1913 and 1914 at the Copley-Plaza Hotel. During both days of the meeting the facilities of the hotel will be at the disposal of the members of the society, and parking space for automobiles, with supervision, will be provided. By arrangement with the management, rooms may be secured at a reduced rate by fellows of the society desiring to spend Tuesday or Wednesday night in Boston.

Clinics and Demonstrations will be held at the various hospitals on Tuesday morning and will be related as far as possible to subjects to be discussed during the meeting.

The Boston Medical Library, 8 The Fenway, will be open for the inspection and use of the fellows during the days of the meetings.

The Harvard Medical School, 240 Longwood Avenue, and the Tufts College Medical School, 416 Huntington Avenue, will be open for inspection by the fellows both Tuesday and Wednesday.

A more detailed program of the exercises on each day of the meeting will be printed in the issue of the JOURNAL for June 3. The annual meeting of the council will be held at the Copley-Plaza Hotel on June 8.

DORCHESTER MEDICAL SOCIETY.

AT the annual meeting of the Dorchester Medical Society, held at the Hotel Brunswick on Apr. 21, 1915, the following officers were elected: President, J. T. Kendricken, M.D.; vice-president, W. E. Barnes, M.D.; secretary-treasurer, F. X. Corr, M.D.; advisory committee, M. T. Thurber, M.D., H. F. R. Watts, M.D., R. M. Merrick, M.D.

Obituary.

FRIEDRICH LOEFFLER, M.D.

DR. FRIEDRICH LOEFFLER, who died recently in Berlin, was born at Frankfort-on-the-Oder in 1852. He received his education at the Universities of Würzburg and Berlin and, as early as 1884, published the results of his first investiga-

tions on the bacillus of diphtheria. Klebs in 1883 had described a bacillus which he observed in diphtheritic membranes, but Loeffler was the first to cultivate the organism in artificial media and to reproduce the disease in animals by inoculation. He was thus able to obtain in guinea-pigs, rabbits, calves and pigeons a purulent conjunctivitis and tracheal lesions from which he recovered the organism in pure culture, thereby fulfilling Koch's laws and demonstrating the etiology of the disease.

In conjunction with his researches in diphtheria, Loeffler made a careful study of the use of aniline dyes in the staining of bacteria and became one of the great pioneers in bacteriologic method. The methylene blue stain which he devised is universally familiar to laboratory workers, and is particularly adapted to the demonstration of the metachromatic granules in diphtheria bacilli.

In 1888 Loeffler was appointed professor and director of the hygiene institute at the University of Greifswald and later was called to Berlin. In 1895 he became a member of the Imperial Institute and in conjunction with Koch and Gaffky pursued important investigations relative to disinfection by means of steam. He also studied and differentiated the so-called red murrain of pigs, which thitherto had been confounded with swine fever.

In its obituary notice of him the *London Lancet* says that "Professor Loeffler as a pioneer will be placed among the foremost of German scientists. The results of his researches, both directly and indirectly, as leading up to the work of other observers (as, for instance, the introduction of the antitoxin treatment of diphtheria), have proved of the highest value to mankind, whilst the manner in which his investigations were conducted has formed a firm and instructive basis for other bacteriologists."

EMORY LINCOLN WHITE, M.D.

Dr. Emory Lincoln White died suddenly of heart disease at his home in Somerville, Mass., on April 29, 1915, aged 66 years.

He was born in Norton, May 15, 1848, and was educated in private schools and in the Harvard Medical School, from which he was graduated in 1872.

Dr. White joined the Massachusetts Medical Society in that year and settled in practice in Somerville, where he was prominent until his death. He was at one time a member of the Somerville Board of Health and also city physician; he was medical examiner for three life insurance companies and was a member of John Abbot Lodge of Masons. He is survived by his widow and one son.

Miscellany.

A STATE MEDICAL EXAMINATION IN THE SEVENTEENTH CENTURY.

The following extract from Mr. John Fyvie's "Story of the Borgias" (p. 252) seems of interest as an account of a state medical examination three hundred years ago:—

"Ferrara, like Padua and Bologna, was celebrated for its school of medicine, but some notion of the qualifications of its practitioners may be obtained from the perusal of a medical diploma granted there as late at 1642, which the historian Citadella discovered in the archives of Ferrara, and which William Gilbert saw, engraved on parchment, in the library of that city. A certain Generoso Marini, wishing to practise as an authorized physician, applied to the judges for a diploma, and duly presented himself for their examination. What happened is thus set forth in the document itself, which is duly signed by 'Joannes Cajetanus Modoni, Judex sapientum civitatis Ferrari,' and 'Franciscus Altramari, Cancellarius.'

"'Having publicly examined and approved the science and knowledge of medicine of Signor Generoso Marini, and his possession of the wonderful secret called Orvietano, which he exhibited on the stage built in the centre of the Piazza of this our city of Ferrara, in presence of its entire population (so remarkable for their civilization and learning) and in presence of many foreigners and other classes of people, we hereby certify that, in our presence also, as well as that of the city authorities, he took several living toads, not those of his own providing, which might have given suspicion of deception on his part, but from a great number of toads which had been caught in fields of the locality by persons who were strangers to him, and which were only handed to him at the moment of making the experiment. An officer of the court then selected from the number of toads collected five of the largest, which the said Generoso Marini placed on a bench before him, and, in presence of all the assembled spectators, he cut all the said toads in half with a large knife. Then, taking a drinking cup, he took in each hand one half of a dead toad and squeezed from it all the fluids and juices it contained into the cup; and the same he did with the remainder. After mixing the contents together he swallowed the whole; and then, placing the cup on the bench, he advanced to the edge of the stage, where for some minutes he remained stationary. Then he became pale as death, and his limbs trembled, and his body began to swell in a frightful manner, and all the spectators began to believe that he would never recover from the poison he had swallowed, and that his death was certain. Suddenly, taking from a jar by his side some of his celebrated Orvietano, he placed a portion of it in

his mouth and swallowed it. Instantly the effect of the wonderful medicine was to make him vomit the poison he had taken; and he stood before the spectators in the full enjoyment of his health. The Populace applauded him highly for the indisputable proof he had given of his great talent. And he then invited many of the most learned of those present to accompany him to his house, and he there showed them his dispensary, as well as his collection of many antidotes, and among them a powder made from little vipers, a powerful remedy in curing every sort of fever, as he had proved by different experiments he made on people of quality and virtue, all of whom he had cured of the fevers under which they were suffering. He also exhibited a wonderful balsam he had invented, which cured with great rapidity all bruises and wounds, as well as burns and scalds of every description. The said Generoso Marini had also great skill in drawing teeth, in which he exhibited an extraordinary dexterity. But that which most distinguished him was his wonderful power in restoring many persons to health who were suffering from divers incurable diseases. In consequence of the rare talent exhibited by Signor Generoso Marini, and as a proof of our love and respect for his wisdom, we have resolved by the authority placed in our hands publicly to reward him with our diploma, so that he may be universally recognized, applauded, and respected. In witness whereof we here set our hands and the public seal of the municipality of Ferrara.'"

SANITARY IMPROVEMENT IN OYSTERS.

ON May 2 the United States Department of Agriculture issued the following statement relative to recent improvement in the sanitation of oysters:—

"Oysters now being shipped from northern oyster beds in interstate commerce are safer than ever before, being as safe a food as milk. This condition has been brought about through the sanitary surveys of oyster beds conducted cooperatively by the Public Health Service and the Department of Agriculture, by the hearty cooperation of the state shellfish authorities with the federal authorities, and finally by a realization on the part of the oyster men that they themselves in the interests of their industry must prevent the taking of oysters from suspected or polluted beds.

"As a result of the survey of oyster beds by the Federal authorities, in coöperation with state authorities, every oyster bed polluted by sewage or other causes, from Virginia to Massachusetts, the northern oyster-producing region, has been closed and many beds placed under such restrictions as to the taking and handling of oysters as to make it practically impossible for oysters at all subject to pollution to be taken and shipped. All the oyster beds in the states mentioned have been so charted that when certain beds are closed, owing to pollution or other causes, it is easy to establish from these maps the definite area covered by these beds.

"In certain cases these restrictions have compelled the transplanting of oysters for a time long enough to make them absolutely free from any danger of pollution, or have limited the taking of oysters to the seasons when the beds are in absolutely clean condition. In this work all the states concerned have coöperated most actively and, what is regarded as of great importance by the federal authorities, the oyster men themselves are seeing to it that no oysters from the prohibited sources enter the local markets or are shipped inland."

MEMORIAL RESOLUTIONS.

HENRY CUTLER BALDWIN, M.D.

AT a meeting of the Boston Society of Psychiatry and Neurology, held April 15, 1915, the following memorial was read:—

Dr. Henry Cutler Baldwin died very suddenly on the afternoon of February 28, 1915. He had engaged in his professional work on the morning of that day, and his death was most unexpected and a shock to his family and many friends, although it would seem that he himself must have recognized symptoms of danger for nearly two years.

Dr. Baldwin, the son of Rollin Mallory and Maria Louise (Colton) Baldwin, was born in Boston, October 27, 1859. He was graduated from Harvard College in 1880, and from the Harvard Medical School in 1884. He was a surgical house pupil in the Massachusetts General Hospital in 1883-1885, and after his hospital service received an appointment as assistant physician of the McLean Hospital, which position he held for nearly a year, resigning in December, 1885, to become private physician to a gentleman in a tour around the world, which was broadening in its influence and furnished many pleasant memories in after-life. Immediately after his return he again went abroad for medical study, and in the fall of 1887 began in Boston the practice of medicine, in which he was eminently successful. In college and in the professional school he took high rank and gave promise of the success he in later life attained.

In his hospital work, both as a pupil and a physician, he was faithful, thorough, painstaking, and spared no time or strength in doing his full duty.

From his service in the Massachusetts General Hospital one might have predicted for him the career of a surgeon, and to this he was early inclined, but his experience at the McLean Hospital and his appointment as assistant in neurology in the out-patient department of the Massachusetts General Hospital turned him to the field of neurology and psychiatry, in which his practice chiefly lay. He was exceedingly successful in the treatment of difficult cases of long duration that required infinite patience, persistence and ingenuity in a process of reëducation. He was a forceful, self-reliant man and had great executive ability, which enabled him to manage extremely difficult cases. He was firmly convinced that the physician should be in control and declined the care of those who would not follow directions. He gained the confidence of his patients by absolute devotion to them, never hesitating to do anything that promised for their advantage, even though the service might seem to be more within the province of the nurse than the physician. He was always ready by night and day, and for a long time it seemed that he had the physique to meet all demands upon him. As an expert witness, in which capacity he frequently served, he showed the same thorough and painstaking preparation that was manifested in all his work.

He was a member of many medical societies, but took especial interest in the Boston Society of Psychiatry and Neurology, of which he was secretary from 1898 to 1904, and president in 1909. He often made brief communications and showed cases, but rarely read a formal paper. As chairman of the board of trustees he formulated a plan for the development of the Boston Insane Hospital, of which he officially saw only the beginning, but which has since been more fully realized. This plan was presented by him in a paper read in January, 1900, before the Boston Society for Medical Improvement.

A man of rare personal qualities, exceptional professional ability, absolute common sense, forcefulness and tenacity of purpose, he leaves a place in the community which it will be difficult to fill.

Resolved, That the Boston Society of Psychiatry and Neurology place on record its appreciation of the character and attainments of Dr. Baldwin and the deep sense of the loss it has sustained in his death.

Resolved, That a copy of these resolutions be sent to Mrs. Baldwin and his brother, be spread on the records of the Society, and printed in the Boston Medical and Surgical Journal.

Philip Coombs Knapp, M.D.,
George T. Tuttle, M.D.

Correspondence.

THE HARVARD UNIT AT THE AMERICAN AMBULANCE IN PARIS.

American Ambulance Hospital,
Neuilly, Paris, France, April 19, 1915.

Mr. Editor: The Harvard Unit assumed its responsibilities at the American Ambulance on April 1. There are four surgical services in the hospital, one in charge of Dr. C. W. Du Bouchet, surgeon-in-chief, one in charge of Dr. Joseph A. Blake, a third in charge of Dr. Mignot, and the fourth or so-called University Service, administered by the Harvard Unit, during April, May and June, with Dr. Harvey Cushing the ranking member in charge of the neurological cases, and Dr. R. B. Greenough the active chief surgeon.

There are also special departments, eye, nose, throat and ear, x-ray, dental, massage, and a genito-urinary department in process of organization.

The hospital is housed in the large Lycée Pasteur recently built and never used before: it was taken over by the Government and assigned to the American Ambulance. It has been skilfully adapted to its new use and serves its purpose admirably. The building has three main floors divided into wards arranged about a central court and a wing devoted to offices, supply rooms and the special departments. On the top floor of this wing are the very adequately appointed operating room, sterilizing room, laboratory and office of the Harvard Unit.

The hospital contains about 500 beds with a possible increase beyond this number. The University Service has charge of 168 of these beds, practically the entire third floor of the building.

Everyone connected with the hospital has shown the greatest courtesy to the Unit and its needs have been supplied in a most cordial spirit of co-operation and in a most generous manner. For the first two weeks the service was comparatively light which enabled the chiefs to organize the work and establish an adequate record system. The two residents and the three house officers were thus able to make a careful study of the cases. Each house officer has charge of six wards of nine or ten beds each and both residents and house officers live at the hospital. Two stenographers, speaking both French and English, and half the time of a photographer, are at the disposal of the Unit.

An idea of the activity of the service may be gained from the fact that during the first two weeks the Harvard Unit discharged 51 old and admitted 65 new patients, the largest number received on any one day being 23. The cases are sent to well-equipped convalescent homes as soon as their condition will allow. This provision makes possible a constantly active service, almost as active in fact as that of any of the large general hospitals in Boston.

Even the very fresh wounds, of which the hospital is now receiving many, are most of them septic; some of them seriously so. There have been several cases of infection with gas-producing anaerobic bacteria but none of them have demanded radical surgery. We have known of no cases of tetanus occurring in the hospital which may well be attributed to the routine prophylactic doses of anti-tetanic serum given at the front.

The operations on the infected cases have consisted in the establishment of proper drainage and the removal of foreign bodies and bone fragments. A musculo-spiral nerve dissection and freeing, and a facial nerve suture in the canal by Dr. Cushing, a plastic of the face by Dr. Greenough, and a transfusion on Dr. Blake's service by Dr. Vincent have been examples of clean surgery. There have been a surprisingly large number of peripheral nerve lesions and several interesting cranial injuries. Many of the

cases have also needed orthopaedic treatment in the way of apparatus, to correct deformity and retain proper alignment in fractures. A very large number of compound comminuted and infected fractures of the long bones present special problems.

Dr. Strong's departure for Servia has robbed the Unit of one of its most important members. He was able to plan the bacteriological and laboratory lines of investigation and these lines are being closely followed by Dr. Rogers and Dr. Benet.

The service bids fair to be a most interesting and valuable one and the hospital seems to welcome the assistance of these groups of American surgeons.

Very truly yours,

ROBERT B. OSGOOD, M.D.

CORSETS, PTOSIS, AND SACROILIAC STRAIN.

ALLSTON, MASS., May 1, 1915.

Mr. Editor: I have read with much interest the contribution of Dr. R. M. Green in your number of April 22, on the relation of ptosis and sacroiliac strain to pelvic conditions, and the value of proper corseting in their treatment. The article is certainly to be commended for calling attention to a most important, yet greatly neglected, subject. On the basis of experience with similar cases, as seen in adult orthopedic clinics, I cannot, however, wholly agree with some of the ideas expressed.

In the first place, the division of all corsets into two groups, those which lace in front and those which lace behind,* as representing good and bad types, respectively, does not seem to me to be a pertinent classification, nor can I agree that the lace-back corsets "are all bad." The fundamental difference does not lie in the position of the lacing, but in what the corset accomplishes. Certainly it is just as true that there are lace-front corsets which are bad as it is true that lace-back corsets may be found which are to be recommended. It is my belief that many, if not the majority of, orthopedic surgeons in Boston are today using lace-back corsets.

The requisites of a good corset do not depend so much on its style as on its function. From this viewpoint a good corset is one which, granted it is of suitable size, has a snug-fitting bottom, with a loose top and sides, and a relatively straight, firm back, furnishing a definite lifting power and assisting in the correction of faulty posture. It should be so constructed, moreover, that it may be readily altered, as practically no ready-made corset is wholly good without a few careful alterations.

A corset which meets these requirements will not only support the viscera, but do this without cramping, for it is just as important that ample space be allowed in the upper part of the corset for the accommodation of the lax abdominal wall, as it is that the corset should be tight below to elevate and support this laxity. In other words, the corset must be designed to transfer the superfluous flesh and the sagging abdominal contents from below to above, rather than to squeeze them directly backward against the spine. The lace-back corset will do this as well as the face-front, if it is properly fitted at the bottom, darts being taken in the lower edge when necessary. While the application of a corset in recumbency is ideal, and, in fact, is the best way for a lace-front corset to be applied, this method is not always practicable, and can be avoided with a lace-back type. With the latter, the patient, standing, buckles on the unlaced corset, pulls it well down, and then lifts the abdomen inside with one hand, while the other tightens the bottom or pelvic lacing, so holding the position gained.

It is my experience, however (in this the orthopedist may of course differ from the gynecologist), to observe very few cases of visceroptosis in which all the symptoms could be accounted for by this condition *per se*, or in which, indeed, the ptosis did not appear to be but a contributory factor.. To one familiar with the statics of the human body, it does not seem probable for a visceroptosis of any degree to exist without materially interfering with posture, and being productive of the muscle strain attendant to improper balance. Careful examination of patients with ptosis usually reveals other postural defects, notably an increased lordosis of the lumbar spine, which is either the primary defect, or is secondarily produced by an attempt on the part of the individual to alleviate the strain on the muscles of the back, which has been caused by the added anterior weight of the pendulous abdomen. It is this strain of the muscles and ligaments of the low lumbar region from faulty posture, often attended by arthritic changes from long continued irritation, which is responsible for a large measure of the discomfort and referred pain in these cases. The relief of the condition depends fully as much, then, on resting the muscles and ligaments of the low back, and in supporting and straightening the lumbar spine, as in elevating the abdomen. Any corset which will relieve the ptosis necessarily shifts the center of gravity of the body toward the spine, and so relieves the back strain, but the necessity of having, in addition, a straight firm support, against which the lumbar spine may be drawn and held, is obvious.

In regard to flat-foot and sacroiliac strain, as mentioned in this connection in Dr. Green's article, while both are productive of backache, and may, of course, accompany visceroptosis, the static results of the former should be considered a distinct entity, while the latter is rarely seen in pure faulty posture, the strain and pain in these cases being largely muscular, and located in the lumbo-sacral region.

Methods of treatment necessarily vary with the experience of different men, and equally good results are often obtained by quite dissimilar procedures. It is rather in defence of the ideas expressed above, than in criticism of those of the article under discussion, that the undersigned has taken the liberty of submitting these remarks.

Very truly yours,

EBEN W. FISKE, M.D.

[* It should be noted that in the article in question the exact phrase is "those that lace *only* behind." This seems intended to convey a somewhat different idea from that assumed by our correspondent.—EDITOR.]

BELGIAN PHYSICIANS' RELIEF FUND.

REPORT OF THE TREASURER OF THE COMMITTEE OF AMERICAN PHYSICIANS FOR THE AID OF THE BELGIAN PROFESSION FOR THE WEEK ENDING MAY 1, 1915.

CONTRIBUTIONS.

Dr. N. B. Murphy, Bangor, Mich.	$ 25.00
Col. W. H. Arthur, M.C., U.S.A., San Francisco, Cal.	10.00
Dr. Augustus A. Eshner, Philadelphia, Pa.	10.00
Dr. S. W. Goddard, Brockton, Mass.	10.00
Dr. Albert M. Judd, Brooklyn, N. Y.	5.00
Dr. Calvin F. Barber, Brooklyn, N. Y.	10.00
The Mount Vernon Medical Society, Mount Vernon, N. Y.	10.00
Receipts for the week ending May 1	$ 80.00
Previously reported receipts	6505.50
Total receipts	$6585.50

Disbursements for the week ending May 1:

35 standard boxes of food @ $2.30 .. $ 80.50

Previously reported disbursements:	
1625 standard boxes of food @ $2.20..	3575.00
1274 standard boxes of food @ $2.30..	2930.20
Total disbursements	$6585.70
Deficit	$0.20

F. F. SIMPSON, M.D., *Treasurer*,
7048 Jenkins Arcade Bldg.,
Pittsburg, Pa.

Dr. J. Riddle Goffe, of New York, says that in a letter just received from Dr. Jacobs, of Brussels, the latter summarizes the situation of our Belgian Colleagues as follows:

1. Many doctors were killed, consequently the widows and orphans deprived of everything, are without a home, without means, with nothing left.
2. All country doctors or those living in small towns are ruined by loss of every possession they had.
3. Doctors in large cities are ruined by commandeering and war-levies.
4. The largest part of the Belgian population has become the prey of infectious diseases, epidemics, with a large infant mortality.
5. Ruined civilian populations cannot pay for medical advice, consequently several physicians are compelled to work for nothing, others are obliged to undertake any labor for gain as a means of livelihood, with results that are terrible for the population.

The opportunity is here created for the medical profession of the world to show the brotherly feeling which exists among them, and they can do this by helping us with the necessary funds.

UNITED STATES CIVIL SERVICE EXAMINATION.

JUNE 8, 1915.

The United States Civil Service Commission announces an open competitive examination for physiologist, for men only. From the register of eligibles resulting from the examination certification will be made to fill a vacancy in this position in the Dairy Division, Bureau of Animal Industry, Department of Agriculture, Washington, D. C., at a salary ranging from $2500 to $3000 a year, and vacancies as they may occur in positions requiring similar qualifications, unless it is found to be in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

The duties of this position will be to take charge of investigations in the secretion of milk and will involve a general fundamental study of the factors controlling the secretion of milk.

An M.D. degree or a Ph.D. degree in physiological work, and at least four years' subsequent experience in the investigation of physiological problems, are prerequisites for consideration for this position.

Applicants must not have reached their fiftieth birthday on the date of the examination. Under an act of Congress applicants for this position must have been actually domiciled in the State or Territory in which they reside for at least one year previous to the date of the examination. A ten-cent internal revenue stamp must be attached to the county officer's certificate in Form 304. This examination is open to all men who are citizens of the United States and who meet the requirements.

Persons who meet the requirements and desire this examination should at once apply for Forms 304 and 2095, stating the title of the examination for which the forms are desired, to the United States Civil Service Commission, Washington, D. C.; the Secretary of the United States Civil Service Board, Post Office, Boston, Mass.; Philadelphia, Pa.; Atlanta, Ga.; Cincinnati, Ohio; Chicago, Ill.; St. Paul, Minn.; Seattle, Wash.; San Francisco, Cal.; Customhouse, New York, N. Y.; New Orleans, La.; Honolulu, Hawaii; Old Customhouse, St. Louis, Mo.; or to the Chairman of the Porto Rican Civil Service Commission, San Juan, P. R. Applications should be properly executed, excluding the medical certificate, and must be filed with the Commission at Washington, with the material required, prior to the hour of closing business on June 8, 1915.

EXAMINATION OF CANDIDATES FOR ASSISTANT SURGEON.

UNITED STATES PUBLIC HEALTH SERVICE.

Boards of commissioned medical officers will be convened to meet at the Bureau of Public Health Service, 3 "B" Street, S.E., Washington, D. C., and at the Marine Hospitals of Boston, Mass.; New York, N. Y.; Chicago, Ill.; St. Louis, Mo.; Louisville, Ky.; New Orleans, La.; and San Francisco, Cal., on Monday, June 21, 1915, at 10 o'clock A.M., for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health Service, when applications for examination at these stations are received in the Bureau.

Candidates must be between 23 and 32 years of age, graduates of a reputable medical college, and must furnish testimonials from two responsible persons as to their professional and moral character. Service in hospitals for the insane or experience in the detection of mental diseases will be considered and credit given in the examination. Candidates must have had one year's hospital experience or two years' professional work. Candidates must be not less than 5 feet, 4 inches, nor more than 6 feet, 2 inches, in height, with relatively corresponding weights.

In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate and that they will serve wherever assigned to duty.

The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists of examination in the various branches of medicine, surgery, and hygiene. The oral examination includes subjects of preliminary education, history, literature, and natural sciences.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order. They will receive early appointments. After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon.

Assistant surgeons receive $2000, passed assistant surgeons $2400, surgeons $3000, senior surgeons $3500, and assistant surgeon generals $4000 a year. When quarters are not provided, commutation at the rate of $30, $40, and $50 a month, according to the grade, is allowed. All grades receive longevity pay, 10 per cent. in addition to the regular salary for every five years up to 40 per cent. after twenty years' service. The tenure of office is permanent. Officers travelling under orders are allowed actual expenses.

For invitation to appear before the board of examiners, address "Surgeon-General, Public Health Service, Washington, D. C."

UNITED STATES NAVY MEDICAL CORPS.

The surgeon general of the United States Navy has recently issued a revised circular for the information

of persons desiring to enter the navy medical corps, from which the following data seem of special importance:

A candidate for appointment in the medical corps of the Navy must be a citizen of the United States, between 21 and 30 years of age, a graduate of a reputable school of medicine, and must apply for permission to appear before a board of medical examiners. The application *must be in the handwriting of the applicant*, and must be accompanied by the following certificates:

(*a*) Letters or certificates from *two* or more persons of good repute, testifying from personal knowledge to good habits and moral character.

(*b*) A certificate to the effect that the applicant is a citizen of the United States.

(*c*) Certificate of preliminary education: The candidate must submit a certificate of graduation from an accepted high school or an accepfable equivalent.

(*d*) Certificate of medical education: This certificate should give the name of the school and the date of graduation.

(*e*) If the candidate has had hospital service or special educational or professional advantages, certificates to this effect, signed by the proper authorities, should also be forwarded.

The applicant will save unnecessary correspondence if he will make sure when submitting his application that the qualifications enumerated above are clearly and plainly described in his letters or certificates.

The next examination of candidates will take place on or about July 6, 1915, at the following naval stations: Washington, D. C.; Boston, Mass.; New York, N. Y., Philadelphia, Pa.; Norfolk, Va.; Charleston, S. C.; Great Lakes, Ill.; Mare Island, Cal.; Puget Sound, Wash. Applications accompanied by the necessary letters or certificates should reach the Bureau of Medicine and Surgery, United States Navy Department, Washington, D. C., not later than June 26, 1915.

CHANGES IN THE MEDICAL CORPS, U. S. NAVY, FOR THE WEEK ENDING APRIL 24, 1915.

April 13, Medical Director E. H. Green, placed on the retired list from April 18, 1915, detached, all duty; to home.

Asst. Surgeon Talmadge Wilson, M.R.C., detached, Naval Medical School, to Asiatic Station, via May Transport.

Asst. Surgeon S. M. Taylor, M.R.C., detached, Naval Medical School, to Asiatic Station, via May Transport.

April 21, P. A. Surgeon Micajah Boland, detached, *Iris*, to home.

P. A. Surgeon J. C. Parham, to Navy Yard, Charleston, S. C.

Asst. Surgeon H. M. Stenhouse, M.R.C., detached, Naval Medical School, Washington, D. C., to *Iris*.

April 23, Surgeon A. D. McLean, Commissioned from June 25, 1915.

Surgeon W. S. Pugh, commissioned from June 25, 1915.

Surgeon C. E. Ryder, commissioned from December 15, 1915.

Asst. Surgeon C. A. Costello, M.R.C., detached, Navy Recruiting Station, Chicago, Ill.

April 22, the following Assistant Surgeons have been detached from the Naval Medical School, Washington, D. C.:

Medical Reserve Corps. William McKinney, E. L. Matthews, J. F. Newberger, W. E. Lawhead, A. L. Bass, Arthur Freeman, A. R. Barrow, J. M. Quinn, J. H. Harris, C. F. Glenn, A. C. Thompson, G. E. Faulkner, N. M. McClelland, R. L. Natkemper, A. E. Mann.

NOTICE.

DINNER TO DR. THEOBALD SMITH. The postponed dinner to Dr. Theobald Smith is to be held at the Harvard Club, Boston, on the evening of Wednesday, June 2. Those wishing further information about the dinner may apply to

DR. MARSHAL FABYAN,
379 Commonwealth Avenue, Boston.

SOCIETY NOTICES.

ESSEX SOUTH DISTRICT MEDICAL SOCIETY.—The annual meeting of the Essex South Medical Society will be held Thursday, May 13, 6.30 P.M., at the Relay House, Nahant. Election of officers for 1915-1916 will follow the dinner.

The meeting will be held jointly with the Lynn Medical Fraternity.

Dr. H. D. Arnold, Dean of the Harvard Post-Graduate Medical School, will be a guest and will talk on "Circulatory Disorders."

The censors meet Thursday afternoon, May 13, 2 P.M., at Salem Hospital, for the examination of candidates for admission to the Society.

J. F. O'SHEA, M.D., *President*,
H. P. BENNETT, M.D., *Secretary*.

HARVARD MEDICAL ALUMNI ASSOCIATION.—The triennial meeting of the Harvard Medical Alumni Association will be held in Boston on May 20. Morning program, at the Massachusetts General Hospital, Boston City Hospital, Free Hospital for Women, and Psychopathic Hospital.

1 P.M., lunch at the Harvard Medical School. Afternoon program, at the Peter Bent Brigham Hospital, The Children's Hospital, The Cancer Hospital, and all the departments in the buildings of the Harvard Medical School.

Dinner at the Harvard Club at 7.30 P.M. All Alumni whether or no members of the Association, are invited.

CHANNING FROTHINGHAM, JR., M.D.,
Chairman of Committee of Arrangements.

RECENT DEATHS.

DR. WILLIAM B. RICE, who died on May 2 at Buffalo, N. Y., was born at Port Byron, N. Y., in 1826. After teaching school for a time he studied medicine and subsequently practised his profession for many years in Niagara County. He was particularly known for his effective work during an epidemic of enteric fever at Niagara Falls. He is survived by three daughters and two sons.

DR. W. P. DILLON of Ottawa, Canada, is reported to have been killed in action with his regiment in France. He had been for many years a well-known local practitioner at Ottawa.

DR. ARCHIBALD ELEXIS MACDONALD, formerly a practitioner in the North End of Boston, died at Jamaica Plain, Mass., April 27, aged 87 years. He was born in Prince Edward Island. He graduated from the Harvard Medical School in 1865 and joined The Massachusetts Medical Society in the same year, being a Fellow at the time of his death. He was at one time surgeon of the Ninth Regiment, M.V.M., and a member of the Ancient and Honorable Artillery Company. One of his sons is Dr. Charles F. MacDonald of Boston, and he is survived by two daughters and two other sons.

BOOKS AND PAMPHLETS RECEIVED.

Great Men and How They Are Produced, by Casper L. Redfield. Chicago. 1915.